

3.2.2 Freeway Volumes

Peak hour volumes on I-15 mainline segments are based on an analysis of traffic volume data available from PeMS. Volumes in the a.m. and p.m. peak periods for Tuesdays through Thursdays for a one-month interval (August 2008) were averaged to determine peak period flows, and the highest peak hour was used. Data from vehicle detection stations (VDS) 807811 (northbound) and 811117 (southbound) at the Bellegrave Avenue overcrossing was the basis for I-15 mainline volumes. The remaining freeway segment volumes were calculated by adding and subtracting ramp volumes at each interchange. Truck percentages on the freeway were determined based on a visual vehicle classification count conducted at the Bellegrave Avenue overcrossing in August 2008. Freeway volumes were converted to PCE volumes using an average PCE factor for all trucks. Existing a.m. and p.m. peak hour traffic volumes at the freeway segments are illustrated in **Figures 3.2.2-1a, 3.2.2-1b, 3.2.2-1c, and 3.2.2-1d.**

3.3 Existing Traffic Operations

3.3.1 Freeway Performance Analysis

3.3.1.1 Mainline Level of Service

Existing a.m. and p.m. peak hour levels of service for the study area freeway segments are summarized in **Table 3.3.1.1-1**. The freeway mainline LOS calculation sheets are contained in **Appendix C**. Existing freeway mainline levels of service, number of lanes, and volumes are illustrated in **Figures 3.3.1.1-1a, 3.3.1.1-1b, 3.3.1.1-1c, and 3.3.1.1-1d**. As **Table 3.3.1.1-1** indicates, all the freeway segments in the study area are currently operating at satisfactory levels of service during both the a.m. and p.m. peak hours, with the exception of the following:

I-15 Northbound

- ♦ Murrieta Hot Springs Road On-Ramp to California Oaks Road Off-Ramp (p.m. peak hour).

Table 3.3.1.1-1 - Existing (2008) Freeway Mainline Peak Hour Level of Service

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge to Murrieta Hot Springs Rd Off-Ramp	3	66.5	13.4	B	64.6	28.6	D
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd On-Ramp	3	66.5	12.0	B	65.9	25.7	C
Murrieta Hot Springs Rd On-Ramp to California Oaks Rd Off-Ramp	3	66.5	16.2	B	58.1	37.8	E
California Oaks Rd Off-Ramp to California Oaks Rd On-Ramp	3	66.5	13.1	B	65.3	27.2	D
California Oaks Rd On-Ramp to Clinton Keith Rd Off-Ramp	3	66.5	15.5	B	62.0	32.7	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.5	12.8	B	65.7	26.1	D
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	3	66.5	16.3	B	63.8	30.0	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	66.5	15.6	B	65.5	26.6	D
Baxter Rd On-Ramp to Bundy Canyon Rd Off-Ramp	3	66.5	16.6	B	65.0	27.9	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.5	15.6	B	66.4	23.4	C
Bundy Canyon Rd On-Ramp to Railroad Canyon Rd Off-Ramp	3	66.5	17.9	B	66.2	24.5	C
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.5	15.8	B	66.5	20.2	C
Railroad Canyon Rd On-Ramp to Main St Off-Ramp	3	66.5	20.9	C	66.2	24.5	C
Main St Off-Ramp to Main St On-Ramp	3	66.5	19.1	C	66.5	22.3	C
Main St On-Ramp to SR-74 Off-Ramp	3	66.5	19.8	C	66.4	22.8	C
SR-74 Off-Ramp to SR-74 On-Ramp	3	66.5	16.1	B	66.5	17.5	B
SR-74 On-Ramp to Nichols Rd Off-Ramp	3	67.0	18.7	C	67.0	19.5	C
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	3	67.0	18.3	C	67.0	18.9	C
Nichols Rd On-Ramp to Lake St Off-Ramp	3	67.0	19.0	C	67.0	20.1	C
Lake St Off-Ramp to Lake St On-Ramp	3	67.0	18.2	C	67.0	18.7	C
Lake St On-Ramp to Indian Truck Trail Off-Ramp	3	67.0	21.5	C	67.0	19.7	C
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	3	67.0	20.9	C	67.0	19.5	C
Indian Truck Trail On-Ramp to Temescal Canyon Rd Off-Ramp	3	66.8	23.9	C	67.0	20.9	C
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	3	67.0	22.2	C	67.0	20.1	C
Temescal Canyon Rd On-Ramp to Weirick Rd Off-Ramp	3	66.6	24.5	C	66.9	23.0	C
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	3	66.8	23.7	C	66.9	22.6	C

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Weirick Rd On-Ramp to Cajalco Rd Off-Ramp	3	65.0	28.5	D	66.1	26.2	D
Cajalco Rd Off-Ramp to Cajalco Rd On-Ramp	3	65.8	26.9	D	66.7	24.1	C
Cajalco Rd On-Ramp to El Cerrito Rd Off-Ramp	3	60.9	33.8	D	60.2	30.3	D
El Cerrito Rd Off-Ramp to El Cerrito Rd On-Ramp	3	58.9	33.4	D	60.5	28.8	D
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	3	54.7	40.1	E	60.1	30.5	D
Ontario Ave Off-Ramp to Lane Addition	3	59.7	31.6	D	60.7	27.5	D
Lane Addition to Ontario Ave On-Ramp	4	62.2	22.8	C	62.2	20.1	C
Ontario Ave On-Ramp to Magnolia Ave Off-Ramp	4	61.9	27.8	D	62.2	24.4	C
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp	3	57.7	35.4	E	59.8	31.3	D
Magnolia Ave On-Ramp to SR-91 Off-Ramp	4	See Weave Analysis					
SR-91 Off-Ramp to SR-91 WB On-Ramp	3	60.7	19.9	C	60.7	18.2	C
SR-91 WB On-Ramp to SR-91 EB On-Ramp	3	60.7	27.5	D	60.7	24.8	C
SR-91 EB On-Ramp to Hidden Valley Pkwy Off-Ramp	4	62.2	28.3	D	62.7	25.1	C
Hidden Valley Pkwy Off-Ramp to Hidden Valley Pkwy On-Ramp	4	62.7	26.0	C	62.7	22.6	C
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	See Weave Analysis					
2 nd St Off-Ramp to Lane Deletion	4	62.7	23.4	C	62.7	23.2	C
Lane Deletion to 2 nd St On-Ramp	3	59.3	33.0	D	59.6	32.5	D
2 nd St On-Ramp to 6 th St Off-Ramp	3	58.2	35.0	E	56.6	37.4	E
6 th St Off-Ramp to 6 th St On-Ramp	3	60.5	30.3	D	60.7	29.7	D
6 th St On-Ramp to Limonite Ave Off-Ramp	3	57.5	36.1	E	58.5	34.5	D
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	3	60.0	31.6	D	61.2	26.5	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Limonite Ave On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	3	54.6	40.4	E	60.6	30.0	D
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd On-Ramp	3	56.2	38.2	E	60.9	29.2	D
Cantu-Galleano Ranch Rd On-Ramp to SR-60 EB Off-Ramp	4	62.7	26.0	C	62.7	21.5	C
SR-60 EB Off-Ramp to SR-60 WB Off-Ramp	4	62.7	25.0	C	62.7	20.0	C
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	61.2	24.7	C	61.2	21.8	C
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	62.7	25.5	C	62.7	21.2	C
North of SR-60 EB On-Ramp	5	64.2	24.4	C	64.2	24.0	C
I-15 Southbound							
North of SR-60 Off-Ramp	4	53.6	42.4	E	57.8	36.5	E
SR-60 Off-Ramp to SR-60 EB On-Ramp	3	61.2	21.5	C	61.2	24.0	C
SR-60 EB On-Ramp to SR-60 WB On-Ramp	3	61.2	27.0	D	59.0	33.7	D
SR-60 WB On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	4	62.7	22.5	C	62.6	26.7	D
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd WB On-Ramp	3	60.9	28.8	D	57.6	35.9	E
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	4	62.7	21.3	C	62.7	25.3	C
Cantu-Galleano Ranch Rd EB On-Ramp to Limonite Ave Off-Ramp	3	60.7	29.8	D	55.6	38.9	E
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	3	61.2	26.4	D	60.2	31.3	D
Limonite Ave On-Ramp to 6 th St Off-Ramp	3	59.5	32.8	D	55.9	38.5	E
6 th St Off-Ramp to 6 th St On-Ramp	3	61.0	28.5	D	60.1	31.3	D
6 th St On-Ramp to 2 nd St Off-Ramp	3	58.5	34.5	D	56.5	37.7	E
2 nd St Off-Ramp to Lane Addition	3	60.3	30.9	D	58.6	34.3	D
Lane Addition to 2 nd St On-Ramp	4	62.7	22.3	C	62.7	24.1	C

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp	5	See Weave Analysis					
Hidden Valley Pkwy Off-Ramp to Hidden Valley Pkwy On-Ramp	4	62.7	20.8	C	62.7	23.7	C
Hidden Valley Pkwy On-Ramp to SR-91 WB Off-Ramp	4	62.7	22.0	C	62.7	25.5	C
SR-91 WB Off-Ramp to SR-91 WB Off-Ramp	5	64.2	17.2	B	64.2	19.9	C
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	3	61.2	21.6	C	61.2	22.4	C
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	3	61.2	14.5	B	61.2	15.4	B
SR-91 EB On-Ramp to SR-91 WB On-Ramp	4	62.7	19.3	C	62.7	21.2	C
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weave Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp	4	62.2	19.4	C	62.2	18.8	C
Magnolia Ave On-Ramp to Ontario Ave Off-Ramp	4	62.2	20.9	C	62.2	21.5	C
Ontario Ave Off-Ramp to Ontario Ave On-Ramp	4	62.2	16.2	B	62.2	18.0	B
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp	4	62.2	17.5	B	62.2	23.7	C
El Cerrito Rd Off-Ramp to El Cerrito Rd On-Ramp	3	60.7	22.3	C	60.7	26.6	D
El Cerrito Rd On-Ramp to Cajalco Rd Off-Ramp	3	60.7	23.8	C	58.1	34.8	D
Cajalco Rd Off-Ramp to Cajalco Rd On-Ramp	3	65.7	19.4	C	65.6	23.6	C
Cajalco Rd On-Ramp to Weirick Rd Off-Ramp	3	67.0	19.9	C	66.2	26.0	C
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	3	67.0	17.8	B	67.0	22.1	C
Weirick Rd On-Ramp to Temescal Canyon Rd Off-Ramp	3	67.0	18.1	C	66.9	22.8	C
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	3	67.0	15.8	B	67.0	20.0	C
Temescal Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	3	67.0	16.4	B	67.0	21.6	C
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	3	67.0	15.7	B	67.0	19.3	C

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Indian Truck Trail On-Ramp to Lake St Off-Ramp	3	67.0	16.2	B	67.0	19.7	C
Lake St Off-Ramp to Lake St On-Ramp	3	67.0	15.1	B	67.0	16.3	B
Lake St On-Ramp to Nichols Rd Off-Ramp	3	67.0	16.6	B	67.0	17.6	B
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	3	67.0	16.1	B	67.0	15.8	B
Nichols Rd On-Ramp to SR-74 Off-Ramp	3	67.0	16.5	B	67.0	16.7	B
SR-74 Off-Ramp to SR-74 On-Ramp	3	67.0	14.4	B	67.0	13.8	B
SR-74 On-Ramp to Main St Off-Ramp	3	66.5	19.1	C	66.5	19.0	C
Main St Off-Ramp to Main St On-Ramp	3	66.5	18.6	C	66.5	18.0	B
Main St On-Ramp to Railroad Canyon Rd Off-Ramp	3	66.5	19.9	C	66.5	20.0	C
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.5	16.8	B	66.5	12.8	B
Railroad Canyon Rd On-Ramp to Bundy Canyon Rd Off-Ramp	3	66.5	20.0	C	66.5	15.6	B
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.5	18.7	C	66.5	12.8	B
Bundy Canyon Rd On-Ramp to Baxter Rd Off-Ramp	3	66.5	22.0	C	66.5	14.9	B
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	66.5	21.6	C	66.5	13.6	B
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	3	66.3	23.9	C	66.5	15.2	B
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.5	21.0	C	66.5	11.0	A
Clinton Keith Rd On-Ramp to California Oaks Rd Off-Ramp	3	66.0	25.4	C	66.5	14.6	B
California Oaks Rd Off-Ramp to California Oaks Rd On-Ramp	3	66.5	22.1	C	66.5	11.0	A
California Oaks Rd On-Ramp to Murrieta Hot Springs Rd Off-Ramp	3	65.6	26.4	D	66.5	15.2	B
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.5	19.9	C	66.5	9.2	A
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	66.5	20.5	C	66.5	9.5	A

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Murrieta Hot Springs Rd On-Ramp to I-215 On-Ramp	3	66.5	21.6	C	66.5	11.0	B

3.3.1.2 Ramp Level of Service

Existing a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 3.3.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Existing freeway ramp levels of service, number of lanes, and volumes are also illustrated in previously referenced **Figures 3.3.1.1-1a, 3.3.1.1-1b, 3.3.1.1-1c, and 3.3.1.1-1d**. As **Table 3.3.1.2-1** indicates, all freeway ramp junctions are currently operating at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Murrieta Hot Springs Road On-Ramp (p.m. peak hour);
- ◆ California Oaks Road Off-Ramp (p.m. peak hour);
- ◆ Clinton Keith Road Off-Ramp (p.m. peak hour).

I-15 Southbound

- ◆ SR-60 Off-Ramp (a.m. peak hour);
- ◆ California Oaks Road Off-Ramp (a.m. peak hour);
- ◆ Murrieta Hot Springs Road Off-Ramp (a.m. peak hour).

Table 3.3.1.2-1 - Existing (2008) Freeway Ramp Peak Hour Level of Service

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp	1	57.3	19.4	B	56.8	33.2	D
Murrieta Hot Springs Rd On-Ramp	1	61.1	19.0	B	52.0	36.3	E
California Oaks Rd Off-Ramp	1	56.5	22.9	C	54.8	38.4	E
California Oaks Rd On-Ramp	1	61.0	17.3	B	57.0	31.9	D
Clinton Keith Rd Off-Ramp	1	56.7	22.0	C	55.7	36.0	E
Clinton Keith Rd On-Ramp	1	61.0	18.6	B	58.0	30.0	D
Baxter Rd Off-Ramp	1	57.7	22.2	C	56.7	34.1	D
Baxter Rd On-Ramp	1	61.0	17.6	B	59.0	27.5	C
Bundy Canyon Rd Off-Ramp	1	57.5	22.6	C	56.1	33.2	D
Bundy Canyon Rd On-Ramp	1	61.0	19.5	B	60.0	24.8	C
Railroad Canyon Rd Off-Ramp	1	57.0	24.2	C	55.9	30.9	D
Railroad Canyon Rd On-Ramp	1	60.0	23.8	C	59.0	26.5	C
Main St Off-Ramp	1	57.1	27.0	C	57.0	30.2	D

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Main St On-Ramp	1	61.0	20.3	C	60.0	23.1	C
SR-74 Off-Ramp	1	56.2	26.6	C	55.4	30.0	D
SR-74 On-Ramp	1	61.0	20.7	C	61.0	21.0	C
Nichols Rd Off-Ramp	1	57.8	24.7	C	57.7	25.5	C
Nichols Rd On-Ramp	1	61.0	19.7	B	61.0	21.1	C
Lake St Off-Ramp	1	57.6	25.0	C	57.3	26.3	C
Lake St On-Ramp	1	60.0	23.6	C	61.0	20.7	C
Indian Truck Trail Off-Ramp	1	57.7	27.4	C	57.9	25.6	C
Indian Truck Trail On-Ramp	1	60.0	25.4	C	61.0	21.9	C
Temescal Canyon Rd Off-Ramp	1	57.2	29.7	D	57.6	26.9	C
Temescal Canyon Rd On-Ramp	1	60.0	25.5	C	60.0	24.7	C
Weirick Rd Off-Ramp	1	57.7	30.0	D	57.8	28.7	D
Weirick Rd On-Ramp	1	58.0	29.6	D	59.0	27.5	C
Cajalco Rd Off-Ramp	1	57.4	32.9	D	57.1	31.5	D
Cajalco Rd On-Ramp	1	56.0	32.7	D	59.0	28.8	D
El Cerrito Rd Off-Ramp	1	54.6	35.4	E	54.7	32.6	D
El Cerrito Rd On-Ramp	1	53.0	34.0	D	56.0	28.0	C
Ontario Ave Off-Ramp	1	53.3	47.4	E	54.1	34.0	D
Ontario Ave On-Ramp	1	56.0	28.3	D	57.0	25.1	C
Magnolia Ave Off-Ramp (Major Diverge)	2	-	6.6	A	-	3.9	A
Magnolia Ave On-Ramp	See Weave Analysis						
SR-91 Off-Ramp	See Weave Analysis						
SR-91 WB On-Ramp	1	56.0	28.6	D	56.0	26.8	C
SR-91 EB On-Ramp (Major Merge)	2	-	-	D	-	-	C
Hidden Valley Pkwy Off-Ramp	1	54.0	32.1	D	53.8	29.7	D
Hidden Valley Pkwy On-Ramp	See Weave Analysis						
2 nd St Off-Ramp	See Weave Analysis						
2 nd St On-Ramp	1	55.0	30.7	D	54.0	32.7	D
6 th St Off-Ramp	1	53.9	35.7	E	53.2	37.1	E
6 th St On-Ramp	1	54.0	32.6	D	54.0	31.6	D
Limonite Ave Off-Ramp	1	54.1	36.0	E	52.7	36.4	E
Limonite Ave On-Ramp	1	52.0	34.9	D	56.0	28.6	D
Cantu-Galleano Ranch Rd Off-Ramp	1	54.8	37.0	E	54.9	32.4	D
Cantu-Galleano Ranch Rd On-Ramp	1	53.8	33.2	D	56.0	27.8	C
SR-60 EB Off-Ramp	1	Lane Deletion					
SR-60 WB Off-Ramp	1	51.6	34.8	D	53.1	26.6	C
SR-60 WB On-Ramp (Major Merge)	2	-	-	C	-	-	C
SR-60 EB On-Ramp (Major Merge)	2	-	-	C	-	-	C
I-15 Southbound							
SR-60 Off-Ramp	2	45.2	40.5	F	47.3	32.6	D
SR-60 EB On-Ramp	1	56.0	27.4	C	52.7	33.6	D
SR-60 WB On-Ramp	1	55.0	29.8	D	52.0	34.6	D

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Cantu-Galleano Ranch Rd Off-Ramp	1	54.3	26.1	C	54.2	30.3	D
Cantu-Galleano Ranch Rd WB On-Ramp	1	56.0	26.7	C	54.0	31.5	D
Cantu-Galleano Ranch Rd EB On-Ramp	1	58.0	19.0	B	57.0	22.6	C
Limonite Ave Off-Ramp	1	54.0	32.8	D	53.4	37.4	E
Limonite Ave On-Ramp	1	54.0	31.5	D	53.0	33.8	D
6 th St Off-Ramp	1	53.8	34.6	D	53.5	37.2	E
6 th St On-Ramp	1	54.0	32.0	D	53.0	33.3	D
2 nd St Off-Ramp	1	54.2	35.2	E	54.4	36.3	E
2 nd St On-Ramp	See Weave Analysis						
Hidden Valley Pkwy Off-Ramp	See Weave Analysis						
Hidden Valley Pkwy On-Ramp	1	58.0	20.2	C	57.0	23.6	C
SR-91 WB Off-Ramp (Major Diverge)	2	-	13.6	B	-	20.0	B
SR-91 EB Off-Ramp	1	52.5	28.0	C	52.5	28.6	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	C	-	-	C
SR-91 WB On-Ramp	See Weave Analysis						
Magnolia Ave Off-Ramp	See Weave Analysis						
Magnolia Ave On-Ramp	1	58.0	19.5	B	57.0	21.3	C
Ontario Ave Off-Ramp	1	52.8	28.1	D	53.3	27.4	C
Ontario Ave On-Ramp	1	58.0	16.5	B	57.0	23.6	C
El Cerrito Rd Off-Ramp	1	54.6	20.6	C	54.3	27.2	C
El Cerrito Rd On-Ramp	1	57.2	23.2	C	52.7	34.0	D
Cajalco Rd Off-Ramp	1	54.1	28.0	D	53.5	39.9	E
Cajalco Rd On-Ramp	1	61.0	20.7	C	59.0	27.0	C
Weirick Rd Off-Ramp	1	57.0	26.3	C	56.2	32.0	D
Weirick Rd On-Ramp	1	61.0	18.7	B	60.0	23.3	C
Temescal Canyon Rd Off-Ramp	1	56.9	24.6	C	56.6	29.2	D
Temescal Canyon Rd On-Ramp	1	61.0	17.4	B	61.0	22.7	C
Indian Truck Trail Off-Ramp	1	57.6	22.5	C	56.9	28.0	C
Indian Truck Trail On-Ramp	1	61.0	17.1	B	61.0	20.2	C
Lake St Off-Ramp	1	57.5	22.3	C	56.3	26.6	C
Lake St On-Ramp	1	61.0	18.0	B	61.0	18.9	B
Nichols Rd Off-Ramp	1	57.8	22.5	C	57.1	24.0	C
Nichols Rd On-Ramp	1	61.0	17.3	B	61.0	17.8	B
SR-74 Off-Ramp	1	57.0	22.9	C	56.5	23.5	C
SR-74 On-Ramp	1	61.0	21.8	C	61.0	22.0	C
Main St Off-Ramp	1	57.7	24.9	C	57.5	24.9	C
Main St On-Ramp	1	61.0	20.9	C	61.0	21.3	C
Railroad Canyon Rd Off-Ramp	1	56.5	26.5	C	54.4	28.4	D
Railroad Canyon Rd On-Ramp	1	61.0	21.9	C	61.0	17.6	B
Bundy Canyon Rd Off-Ramp	1	57.4	26.0	C	56.6	22.1	C
Bundy Canyon Rd On-Ramp	1	60.0	23.8	C	61.0	16.6	B
Baxter Rd Off-Ramp	1	57.8	27.6	C	57.3	20.9	C

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Baxter Rd On-Ramp	1	60.0	25.0	C	61.0	16.7	B
Clinton Keith Rd Off-Ramp	1	56.6	30.0	D	55.9	22.4	C
Clinton Keith Rd On-Ramp	1	58.0	29.5	D	61.0	18.7	B
California Oaks Rd Off-Ramp	1	56.5	41.8	E	56.2	26.5	C
California Oaks Rd On-Ramp	1	59.0	27.9	C	61.0	18.0	B
Murrieta Hot Springs Rd Off-Ramp	1	54.9	37.0	E	55.0	25.7	C
Murrieta Hot Springs Rd WB On-Ramp	1	61.0	21.0	C	62.0	10.7	B
Murrieta Hot Springs Rd EB On-Ramp	1	61.0	22.3	C	62.0	12.8	B

3.3.1.3 Weaving Level of Service

Existing a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 3.3.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. Existing freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 3.3.1.1-1a, 3.3.1.1-1b, 3.3.1.1-1c, and 3.3.1.1-1d**. As **Table 3.3.1.3-1** indicates, all freeway weaving segments are currently operating at satisfactory levels of service, with the following exception:

I-15 Northbound

- ◆ Magnolia Avenue On-Ramp to SR-91 Off-Ramp (a.m. and p.m. peak hours).

Table 3.3.1.3-1 - Existing (2008) Freeway Weaving Segment Peak Hour Level of Service

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Magnolia Ave On-Ramp to SR-91 Off-Ramp	4	32.9	51.9	F	30.3	55.9	F
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	53.2	24.7	C	54.3	22.5	C
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp	5	54.9	20.8	C	54.2	23.3	C
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	44.9	26.9	C	43.2	32.5	D

3.3.2 Intersection Performance Analysis

Existing a.m. and p.m. peak hour traffic volumes at the study intersections are illustrated in previously referenced **Figures 3.2.1-1a, 3.2.1-1b, 3.2.1-1c, and 3.2.1-1d**. A level of service analysis using the previously described methodologies was conducted to evaluate existing traffic conditions in the study area. The results of the intersection level of service analysis are summarized in **Table 3.3.2-1**. Detailed levels of service calculation worksheets are included in **Appendix F**.

As **Table 3.3.2-1** indicates, all study area intersections are currently operating at satisfactory levels of service, with the following exceptions:

- ♦ Rimpau Avenue and Magnolia Avenue (p.m. peak hour);
- ♦ I-15 Northbound Ramps and Lake Street (a.m. peak hour);
- ♦ I-15 Northbound Ramps and Baxter Road (p.m. peak hour).

Table 3.3.2-1 – Existing (2008) Intersection Peak Hour Level of Service

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	0.37	12.8	B	0.59	15.9	B
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.16	12.0	B	0.18	11.6	B
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.21	23.1	C	0.18	23.7	C
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	0.22	32.2	C	0.23	31.7	C
5	Hamner Avenue and Limonite Avenue	Signal	0.39	28.2	C	0.51	31.4	C
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.39	13.1	B	0.54	15.5	B
7	I-15 Southbound Ramps and Limonite Avenue	Signal	0.55	23.9	C	0.57	25.5	C
8	I-15 Northbound Ramps and Limonite Avenue	Signal	0.60	24.8	C	0.64	28.1	C
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	0.2	A	N/A	0.3	A
10	Pats Ranch Road and Limonite Avenue	Signal	0.38	13.2	B	0.56	14.8	B
11	Wineville Road and Limonite Avenue	Signal	0.44	26.8	C	0.49	28.0	C
12	Hamner Avenue and Schleisman Road	Signal	0.59	6.3	A	0.43	3.5	A
13	I-15 Southbound Ramps and Schleisman Road		Future Intersection					
14	I-15 Northbound Ramps and Schleisman Road		Future Intersection					
15	Future Road (East of I-15) and Schleisman Road		Future Intersection					
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	0.70	36.6	D	0.73	36.3	D
17	I-15 Southbound Ramps and 6 th Street	Signal	0.55	27.9	C	0.74	31.8	C
18	I-15 Northbound Ramps and 6 th Street	Signal	0.72	31.9	C	0.69	30.6	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
19	Sierra Avenue and 6 th Street	Signal	0.53	25.8	C	0.47	22.9	C
20	Hamner Avenue and 2 nd Street	Signal	0.71	31.5	C	0.63	33.7	C
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.55	21.7	C	0.50	19.7	B
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.73	30.4	C	0.69	31.8	C
23	Valley View Avenue and 2 nd Street	AWSC	N/A	9.4	A	N/A	12.7	B
24	Hamner Avenue and Hidden Valley Parkway	Signal	0.53	37.6	D	0.68	54.1	D
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.33	25.4	C	0.62	27.0	C
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.32	6.9	A	0.62	5.1	A
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.43	6.8	A	0.70	10.6	B
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.34	27.9	C	0.43	27.0	C
29	Garland Way and Hidden Valley Parkway	Signal	0.25	19.9	B	0.43	19.5	B
30	Rimpau Avenue and Magnolia Avenue	Signal	0.65	37.0	D	0.86	74.0	E
31	El Sobrante Road and Magnolia Avenue	Signal	0.44	28.2	C	0.53	30.9	C
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	0.64	29.3	C	0.83	34.7	C
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.59	28.7	C	0.69	27.0	C
34	El Camino Avenue and Magnolia Avenue	Signal	0.43	30.9	C	0.35	26.6	C
35	Compton Avenue and Ontario Avenue	Signal	0.60	9.2	A	0.60	10.3	B
36	I-15 Southbound Ramps and Ontario Avenue	Signal	0.69	19.2	B	0.65	18.5	B
37	I-15 Northbound Ramps and Ontario Avenue	Signal	0.69	34.5	C	0.69	27.6	C
38	State Street and Ontario Avenue	2WSC	N/A	2.1	A	N/A	2.5	A
39	Crossroads Street and Foothill Parkway	Signal	0.54	14.0	B	0.69	19.9	B
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	0.62	21.1	C	0.78	39.7	D
41	I-15 Southbound Ramps and El Cerrito Road	Signal	0.73	27.2	C	0.87	37.5	D
42	I-15 Northbound Ramps and El Cerrito Road	Signal	0.78	39.7	D	0.40	27.9	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
43	Katy Way and El Cerrito Road	AWSC	N/A	13.5	B	N/A	9.0	A
44	Bedford Canyon Road and Cajalco Road	Signal	0.32	17.8	B	0.48	21.2	C
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.42	26.9	C	0.68	33.2	C
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.49	22.8	C	0.55	18.1	B
47	Grand Oaks Road and Cajalco Road	Signal	0.28	8.6	A	0.38	17.0	B
48	Temescal Canyon Road and Cajalco Road	Signal	0.65	36.0	D	0.57	52.3	D
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.35	24.4	C	0.52	36.2	D
50	I-15 Southbound Ramps and Weirick Road	Signal	0.40	21.3	C	0.33	26.0	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.36	25.9	C	0.26	20.1	C
52	Temescal Canyon Road and Weirick Road	Signal	0.30	17.1	B	0.34	20.3	C
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.31	17.9	B	0.32	16.4	B
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.38	24.1	C	0.44	28.3	C
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	0.32	29.1	C	0.43	20.7	C
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.42	47.9	D	0.47	23.1	C
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.22	18.9	B	0.33	21.1	C
58	I-15 Southbound Ramps and Indian Truck Trail	1WSC	N/A	3.8	A	N/A	7.9	A
59	I-15 Northbound Ramps and Indian Truck Trail	1WSC	N/A	6.8	A	N/A	4.3	A
60	Temescal Canyon Road and Indian Truck Trail	1WSC	N/A	7.8	A	N/A	6.0	A
61	De Palma Road and Horsethief Canyon Road	1WSC	N/A	4.2	A	N/A	8.3	A
62	I-15 Southbound Ramps and Horsethief Canyon Road		Future Intersection					
63	I-15 Northbound Ramps and Horsethief Canyon Road		Future Intersection					
64	Temescal Canyon Road and Horsethief Canyon Road	1WSC	N/A	7.6	A	N/A	5.3	A
65	Temescal Canyon Road and Lake Street	Signal	0.60	14.4	B	0.77	32.4	C
66	I-15 Southbound Ramps and Lake Street	1WSC	N/A	1.9	A	N/A	14.7	B

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
67	I-15 Northbound Ramps and Lake Street	1WSC	N/A	89.5	F	N/A	15.2	C
68	Walker Canyon Road and Lake Street	2WSC	N/A	3.7	A	N/A	4.1	A
69	Collier Avenue and Nichols Road	1WSC	N/A	7.8	A	N/A	8.2	A
70	I-15 Southbound Ramps and Nichols Road	1WSC	N/A	2.7	A	N/A	4.4	A
71	I-15 Northbound Ramps and Nichols Road	1WSC	N/A	4.0	A	N/A	5.4	A
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.44	24.9	C	0.57	25.3	C
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	0.76	28.4	C	1.01	52.1	D
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.54	17.5	B	0.75	18.0	B
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.59	31.8	C	0.53	29.8	C
76	Flint Street and Main Street	2WSC	N/A	2.5	A	N/A	7.5	A
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	1.9	A	N/A	2.7	A
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	11.4	B	N/A	14.9	B
79	Camino Del Norte and Main Street	1WSC	N/A	5.3	A	N/A	6.2	A
80	Auto Center Drive and Franklin Street	1WSC	N/A	4.1	A	N/A	3.3	A
81	I-15 Southbound Ramps and Franklin Street		Future Intersection					
82	I-15 Northbound Ramps and Franklin Street		Future Intersection					
83	Canyon Estates Drive and Franklin Street	AWSC	N/A	7.4	A	N/A	7.4	A
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	0.39	23.9	C	0.48	26.3	C
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.55	26.7	C	0.74	32.4	C
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.56	17.5	B	0.54	19.9	B
87	Summerhill Drive and Railroad Canyon Road	Signal	0.47	30.0	C	0.67	34.9	C
88	Mission Trail and Olive Street	1WSC	N/A	1.9	A	N/A	1.4	A
89	I-15 Southbound Ramps and Olive Street		Future Intersection					
90	I-15 Northbound Ramps and Olive Street		Future Intersection					

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
91	Grape Street and Olive Street	AWSC	N/A	8.1	A	N/A	8.8	A
92	Orange Street and Bundy Canyon Road	Signal	0.36	20.6	C	0.44	19.1	B
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.46	21.3	C	0.55	22.3	C
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.44	19.3	B	0.46	19.3	B
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	1.3	A	N/A	1.6	A
96	Central Street and Baxter Road	Signal	0.40	7.4	A	0.70	14.5	B
97	I-15 Southbound Ramps and Baxter Road	1WSC	N/A	1.5	A	N/A	3.5	A
98	I-15 Northbound Ramps and Baxter Road	1WSC	N/A	6.7	A	N/A	47.9	E
99	Monte Vista Drive and Baxter Road	1WSC	N/A	3.7	A	N/A	4.6	A
100	Hidden Springs Road and Clinton Keith Road	Signal	0.50	26.7	C	0.56	29.4	C
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.69	28.7	C	0.74	29.1	C
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.62	26.3	C	0.79	31.0	C
103	Arya Drive and Clinton Keith Road	Signal	0.41	15.9	B	0.49	18.6	B
104	Madison Avenue and Kalmia Street	Signal	0.33	14.3	B	0.42	15.2	B
105	I-15 Southbound Ramps and Kalmia Street	Signal	0.48	24.7	C	0.67	25.3	C
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.51	21.4	C	0.90	31.3	C
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.36	19.7	B	0.59	23.7	C
108	Monroe Avenue and California Oaks Road	Signal	0.28	21.2	C	0.44	24.7	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.37	33.1	C	0.67	51.5	D
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.55	15.8	B	0.62	13.6	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.47	9.4	A	0.57	13.5	B
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	0.9	A	N/A	0.8	A
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.46	16.9	B	0.51	17.4	B

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control 2WSC - Two-Way Stop Control AWSC - All-Way Stop Control

♦ Franklin Street On-Ramp to Railroad Canyon Road Off-Ramp (p.m. peak hour).

Table 5.1.1.1-1 - Year 2020 Freeway Mainline Peak Hour Level of Service - No Build Alternative

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge to Murrieta Hot Springs Rd Off-Ramp	3	66.5	16.8	B	64.8	28.2	D
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	66.5	15.3	B	66.0	25.3	C
Murrieta Hot Springs Rd EB On-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.5	17.4	B	65.3	27.3	D
Murrieta Hot Springs Rd WB On-Ramp to California Oaks Rd Off-Ramp	3	66.5	20.8	C	57.2	39.0	E
California Oaks Rd Off-Ramp to California Oaks Rd EB On-Ramp	3	66.5	16.9	B	64.8	28.3	D
California Oaks Rd EB On-Ramp to California Oaks Rd WB On-Ramp	3	66.5	18.0	C	63.5	30.5	D
California Oaks Rd WB On-Ramp to Clinton Keith Rd Off-Ramp	3	66.5	19.4	C	61.3	33.6	D
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.5	16.0	B	65.5	26.6	D
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	3	66.5	21.0	C	61.6	33.2	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	66.5	20.4	C	64.4	29.1	D
Baxter Rd On-Ramp to Bundy Canyon Rd Off-Ramp	3	66.5	21.4	C	63.5	30.5	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.5	19.4	C	65.9	25.5	C
Bundy Canyon Rd On-Ramp to Olive St Off-Ramp	3	66.5	21.5	C	65.1	27.7	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.5	20.4	C	66.1	24.8	C
Olive St On-Ramp to Railroad Canyon Rd Off-Ramp	3	66.3	23.9	C	65.1	27.7	D
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.5	21.9	C	66.1	25.0	C
Railroad Canyon Rd On-Ramp to Franklin St Off-Ramp	3	65.8	25.9	C	64.7	28.5	D
Franklin St Off-Ramp to Franklin St On-Ramp	3	66.0	25.1	C	65.2	27.3	D
Franklin St On-Ramp to Main St Off-Ramp	3	64.7	28.5	D	64.6	28.6	D
Main St Off-Ramp to Main St On-Ramp	3	65.7	26.2	D	65.8	25.9	C
Main St On-Ramp to SR-74 Off-Ramp	3	65.4	27.0	D	65.5	26.7	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-74 Off-Ramp to SR-74 EB On-Ramp	3	66.4	22.7	C	66.5	20.1	C
SR-74 EB On-Ramp to SR-74 WB On-Ramp	3	66.1	24.9	C	66.5	21.2	C
SR-74 WB On-Ramp to Nichols Rd Off-Ramp	3	65.7	27.0	D	66.9	22.7	C
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	3	65.9	26.5	D	67.0	21.4	C
Nichols Rd On-Ramp to Lake St Off-Ramp	3	65.6	27.3	D	66.9	22.9	C
Lake St Off-Ramp to Lake St On-Ramp	3	66.2	26.0	C	67.0	20.4	C
Lake St On-Ramp to Indian Truck Trail Off-Ramp	3	62.7	32.0	D	67.0	21.9	C
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	3	63.8	30.4	D	67.0	21.3	C
Indian Truck Trail On-Ramp to Temescal Canyon Rd Off-Ramp	3	59.3	36.5	E	66.9	23.1	C
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	3	61.9	33.1	D	67.0	21.9	C
Temescal Canyon Rd On-Ramp to Weirick Rd Off-Ramp	3	58.8	37.1	E	66.6	24.8	C
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	3	63.3	31.2	D	66.7	23.9	C
Weirick Rd On-Ramp to Cajalco Rd Off-Ramp	3	-	>45	F	65.6	27.3	D
Cajalco Rd Off-Ramp to Cajalco Rd EB On-Ramp	3	57.1	39.2	E	66.4	25.2	C
Cajalco Rd EB On-Ramp to Cajalco Rd WB On-Ramp	3	-	>45	F	64.8	28.8	D
Cajalco Rd WB On-Ramp to El Cerrito Rd Off-Ramp	3	-	>45	F	60.9	33.7	D
El Cerrito Rd Off-Ramp to El Cerrito Rd On-Ramp/SR-91 HOT Lane Connector	3	-	>45	F	62.2	31.8	D
El Cerrito Rd On-Ramp/SR-91 HOT Lane Connector to Ontario Ave Off-Ramp	3	-	>45	F	59.9	31.1	D
Ontario Ave Off-Ramp to Lane Addition	3	54.5	40.4	E	60.6	28.2	D
Lane Addition to Ontario Ave On-Ramp	4	62.1	26.6	D	62.2	20.6	C
Ontario Ave On-Ramp to Magnolia Ave Off-Ramp	4	60.4	32.1	D	62.2	25.4	C
Magnolia Ave Off-Ramp to Magnolia Ave EB On-Ramp	3	-	>45	F	59.4	32.4	D
Magnolia Ave EB On to Magnolia Ave WB On-Ramp	3	-	>45	F	51.5	44.7	E
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	4	See Weave Analysis					

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-91 Off-Ramp to SR-91 WB On-Ramp	3	60.7	21.4	C	60.7	19.4	C
SR-91 WB On-Ramp to SR-91 EB On-Ramp	3	60.3	29.8	D	60.6	27.9	D
SR-91 EB On-Ramp to Hidden Valley Pkwy Off-Ramp	4	62.5	26.9	D	62.7	24.2	C
Hidden Valley Pkwy Off-Ramp to Hidden Valley Pkwy On-Ramp/SR-91 HOT Lane Connector	4	62.7	24.6	C	62.7	20.9	C
Hidden Valley Pkwy On-Ramp/SR-91 HOT Lane Connector to 2 nd St Off-Ramp	5	See Weave Analysis					
2 nd St Off-Ramp to Lane Deletion	4	62.7	25.7	C	62.5	27.3	D
Lane Deletion to 2 nd St On-Ramp	3	56.1	38.2	E	52.7	43.2	E
2 nd St On-Ramp to 6 th St Off-Ramp	3	54.1	41.1	E	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	3	58.4	34.8	D	54.7	40.2	E
6 th St On-Ramp to Schleisman Rd Off-Ramp	3	54.1	41.1	E	-	>45	F
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	3	58.6	34.4	D	55.1	39.7	E
Schleisman Rd On-Ramp to Limonite Ave Off-Ramp	3	57.3	36.5	E	53.9	41.4	E
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	3	59.7	32.2	D	60.5	30.5	D
Limonite Ave On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	3	-	>45	F	56.8	37.3	E
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd On-Ramp	3	-	>45	F	58.1	35.2	E
Cantu-Galleano Ranch Rd On-Ramp to SR60 EB Off-Ramp	4	61.5	30.4	D	62.3	27.9	D
SR-60 EB Off-Ramp to SR-60 WB Off-Ramp	4	62.6	26.7	D	62.7	25.6	C
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	60.2	31.1	D	60.3	30.8	D
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	61.1	31.2	D	62.4	27.5	D
North of SR-60 EB On-Ramp	5	61.5	31.9	D	61.4	32.0	D
I-15 Southbound							
North of SR-60 Off-Ramp	4	-	>45	F	-	>45	F
SR-60 Off-Ramp to SR-60 EB On-Ramp	3	60.1	31.4	D	61.0	28.6	D
SR-60 EB On-Ramp to SR-60 WB On-Ramp	3	57.5	36.1	E	55.0	39.9	E

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-60 WB On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	4	62.5	27.4	D	62.0	29.1	D
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd WB On-Ramp	3	57.3	36.5	E	53.9	41.3	E
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	4	62.7	25.8	C	62.5	27.3	D
Cantu-Galleano Ranch Rd EB On-Ramp to Limonite Ave Off-Ramp	3	52.5	43.3	E	-	>45	F
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	3	57.5	36.1	E	59.4	32.9	D
Limonite Ave On-Ramp to Schleisman Rd Off-Ramp	3	-	>45	F	54.3	40.9	E
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	3	-	>45	F	55.7	38.8	E
Schleisman Rd On-Ramp to 6 th St Off-Ramp	3	-	>45	F	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	3	-	>45	F	57.4	36.3	E
6 th St On-Ramp to 2 nd St Off-Ramp	3	-	>45	F	-	>45	F
2 nd St Off-Ramp to Lane Addition	3	-	>45	F	54.3	40.8	E
Lane Addition to 2 nd St On-Ramp	4	61.4	30.6	D	62.6	26.6	D
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/SR-91 HOT Connector	5	See Weave Analysis					
Hidden Valley Pkwy Off-Ramp/SR-91 HOT Lane Connector to Hidden Valley Pkwy On-Ramp	4	62.7	24.7	C	62.7	24.0	C
Hidden Valley Pkwy On-Ramp to SR-91 WB Off-Ramp	4	62.6	26.6	D	62.6	26.2	D
SR-91 WB Off-Ramp to SR-91 WB Off-Ramp	5	64.2	20.7	C	64.2	20.4	C
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	3	61.2	23.7	C	61.2	25.1	C
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	3	61.2	15.4	B	61.2	18.4	C
SR-91 EB On-Ramp to SR-91 WB On-Ramp	4	62.7	19.5	C	62.7	23.0	C
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weave Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp	4	62.2	20.2	C	62.2	25.6	C
Magnolia Ave On-Ramp to Ontario Ave Off-Ramp	4	62.2	22.0	C	61.6	29.1	D
Ontario Ave Off-Ramp to Ontario Ave On-Ramp	4	62.2	16.8	B	62.2	25.4	C
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp/SR-91 HOT Lane Connector	4	62.2	18.7	C	61.5	29.4	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
El Cerrito Rd Off-Ramp/SR-91 HOT Connector to El Cerrito Rd On-Ramp	3	60.6	28.1	D	-	>45	F
El Cerrito Rd On-Ramp to Cajalco Rd Off-Ramp	3	60.3	29.8	D	-	>45	F
Cajalco Rd Off-Ramp to Cajalco Rd On-Ramp	3	65.4	24.9	C	-	>45	F
Cajalco Rd On-Ramp to Weirick Rd Off-Ramp	3	66.4	25.4	C	-	>45	F
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	3	66.8	23.3	C	-	>45	F
Weirick Rd On-Ramp to Temescal Canyon Rd Off-Ramp	3	66.8	23.6	C	-	>45	F
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	3	67.0	21.3	C	56.9	39.5	E
Temescal Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	3	67.0	22.0	C	-	>45	F
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	3	67.0	21.0	C	57.9	38.2	E
Indian Truck Trail On-Ramp to Lake St Off-Ramp	3	67.0	21.7	C	56.3	40.3	E
Lake St Off-Ramp to Lake St On-Ramp	3	67.0	20.4	C	62.2	32.7	D
Lake St On-Ramp to Nichols Rd Off-Ramp	3	66.7	24.0	C	60.4	35.0	E
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	3	67.0	22.3	C	62.3	32.6	D
Nichols Rd On-Ramp to SR-74 Off-Ramp	3	66.9	22.7	C	61.1	34.2	D
SR-74 Off-Ramp to SR-74 On-Ramp	3	67.0	20.5	C	64.4	29.4	D
SR-74 On-Ramp to Main St Off-Ramp	3	65.8	26.1	D	56.4	39.9	E
Main St Off-Ramp to Main St On-Ramp	3	65.9	25.5	C	61.1	34.0	D
Main St On-Ramp to Franklin St Off-Ramp	3	65.4	27.0	D	57.6	38.5	E
Franklin St Off-Ramp to Franklin St On-Ramp	3	65.9	25.6	C	60.1	35.2	E
Franklin St On-Ramp to Railroad Canyon Rd Off-Ramp	3	65.5	26.8	D	58.8	36.9	E
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.3	23.8	C	64.7	28.4	D
Railroad Canyon Rd On-Ramp to Olive St Off-Ramp	3	65.9	25.6	C	62.2	32.4	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.4	23.5	C	65.1	27.6	D
Olive St On-Ramp to Bundy Canyon Rd Off-Ramp	3	66.0	25.4	C	64.4	29.0	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.3	23.7	C	65.7	26.2	D
Bundy Canyon Rd On-Ramp to Baxter Rd Off-Ramp	3	65.2	27.4	D	64.0	29.6	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	65.5	26.8	D	64.8	28.2	D
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	3	64.1	29.5	D	63.2	30.9	D
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.2	24.5	C	66.4	23.4	C
Clinton Keith Rd On-Ramp to California Oaks Rd Off-Ramp	3	64.0	29.7	D	65.3	27.2	D
California Oaks Rd Off-Ramp to California Oaks Rd WB On-Ramp	3	65.8	26.1	D	66.3	23.9	C
California Oaks Rd WB On-Ramp to California Oaks Rd EB On-Ramp	3	64.7	28.5	D	65.6	26.4	D
California Oaks Rd EB On-Ramp to Murrieta Hot Springs Rd Off-Ramp	3	63.2	31.0	D	64.4	29.0	D
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.3	23.8	C	66.5	22.0	C
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	66.2	24.4	C	66.5	22.3	C
Murrieta Hot Springs Rd On-Ramp to I-215 On-Ramp	3	65.9	25.8	C	66.3	23.8	C

5.1.1.2 Ramp Level of Service

Year 2020 No Build a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 5.1.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Year 2020 No Build freeway ramp levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.1.1.1-1a, 5.1.1.1-1b, 5.1.1.1-1c, and 5.1.1.1-1d**. As **Table 5.1.1.2-1** indicates, all freeway ramp junctions are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Murrieta Hot Springs Road Westbound On-Ramp (p.m. peak hour);
- ◆ California Oaks Road Off-Ramp (p.m. peak hour);
- ◆ Baxter Road Off-Ramp (p.m. peak hour);
- ◆ Franklin Street Off-Ramp (a.m. peak hour);
- ◆ Temescal Canyon Road Off-Ramp (a.m. peak hour);
- ◆ Weirick Road Off-Ramp (a.m. peak hour);
- ◆ Weirick Road On-Ramp (a.m. peak hour);

- ◆ SR-74 On-Ramp (p.m. peak hour);
- ◆ Main Street Off-Ramp (p.m. peak hour);
- ◆ Franklin Street Off-Ramp (p.m. peak hour);
- ◆ Olive Street Off-Ramp (p.m. peak hour).

Table 5.1.1.2-1 - Year 2020 Freeway Ramp Peak Hour Level of Service - No Build Alternative

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp	1	57.3	22.9	C	56.8	33.0	D
Murrieta Hot Springs Rd EB On-Ramp	1	61.2	19.0	B	59.2	27.4	C
Murrieta Hot Springs Rd WB On-Ramp	1	60.4	23.3	C	49.1	38.4	E
California Oaks Rd Off-Ramp	1	56.0	29.5	D	55.0	46.6	E
California Oaks Rd EB On-Ramp	1	61.2	19.0	B	58.3	29.5	D
California Oaks Rd WB On-Ramp	1	61.0	20.4	C	57.1	31.4	D
Clinton Keith Rd Off-Ramp	2	56.3	11.5	B	55.6	23.0	C
Clinton Keith Rd On-Ramp	1	60.2	23.9	C	56.2	32.6	D
Baxter Rd Off-Ramp	1	57.7	28.2	D	56.7	36.4	E
Baxter Rd On-Ramp	1	60.7	22.1	C	58.4	29.2	D
Bundy Canyon Rd Off-Ramp	1	57.0	27.6	C	56.1	34.7	D
Bundy Canyon Rd On-Ramp	1	60.5	22.8	C	59.0	27.8	C
Olive St Off-Ramp	1	57.4	27.4	C	56.8	32.7	D
Olive St On-Ramp	1	59.7	25.6	C	58.9	28.1	D
Railroad Canyon Rd Off-Ramp	1	57.0	30.6	D	56.9	32.6	D
Railroad Canyon Rd On-Ramp	1	59.1	27.5	C	58.5	28.9	D
Franklin St Off-Ramp	1	57.7	35.2	E	57.6	34.8	D
Franklin St On-Ramp	1	58.5	28.8	D	59.0	27.9	C
Main St Off-Ramp	1	57.1	33.4	D	56.9	33.1	D
Main St On-Ramp	1	59.5	26.6	C	59.6	26.4	C
SR-74 Off-Ramp	2	56.1	18.6	B	54.9	18.8	B
SR-74 EB On-Ramp	1	59.8	25.7	C	60.7	21.9	C
SR-74 WB On-Ramp	1	59.2	27.4	C	60.3	23.7	C
Nichols Rd Off-Ramp	1	57.8	31.8	D	57.4	28.6	D
Nichols Rd On-Ramp	1	59.4	27.0	C	60.3	23.8	C
Lake St Off-Ramp	1	57.5	32.1	D	56.8	29.2	D
Lake St On-Ramp	1	56.7	31.9	D	60.5	22.9	C
Indian Truck Trail Off-Ramp	1	57.5	34.7	D	57.7	27.7	C
Indian Truck Trail On-Ramp	1	55.4	33.6	D	60.2	24.2	C
Temescal Canyon Rd Off-Ramp	1	57.2	36.7	E	57.4	29.0	D
Temescal Canyon Rd On-Ramp	1	55.9	33.1	D	59.6	26.1	C

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Weirick Rd Off-Ramp	1	56.4	37.2	E	57.6	30.2	D
Weirick Rd On-Ramp	1	49.5	38.2	E	58.8	28.1	D
Cajalco Rd Off-Ramp	1	56.9	44.3	E	57.1	32.3	D
Cajalco Rd EB On-Ramp	1	53.0	36.1	E	58.4	29.2	D
Cajalco Rd WB On-Ramp	1	48.2	39.4	F	56.8	31.8	D
El Cerrito Rd Off-Ramp	1	57.4	44.7	F	57.5	35.3	E
El Cerrito Rd On-Ramp	1	46.0	39.9	F	55.7	28.7	D
Ontario Ave Off-Ramp	1	53.4	67.1	F	54.2	36.5	E
Ontario Ave On-Ramp	1	54.3	31.3	D	56.1	27.0	C
Magnolia Ave Off-Ramp (Major Diverge)	2	-	7.0	A	-	4.8	A
Magnolia Ave EB On-Ramp	1	45.4	40.3	F	50.0	36.8	E
Magnolia Ave WB On-Ramp	See Weave Analysis						
SR-91 Off-Ramp	See Weave Analysis						
SR-91 WB On-Ramp	1	54.5	30.7	D	55.2	29.4	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	D	-	-	C
Hidden Valley Pkwy Off-Ramp	1	54.0	31.0	D	53.5	29.7	D
Hidden Valley Pkwy On-Ramp	See Weave Analysis						
2 nd St Off-Ramp	See Weave Analysis						
2 nd St On-Ramp	1	53.4	33.3	D	47.7	38.8	F
6 th St Off-Ramp	1	53.9	37.7	E	53.3	44.3	F
6 th St On-Ramp	1	52.6	34.2	D	49.1	37.7	F
Schleisman Rd Off-Ramp	1	53.8	37.7	E	53.5	42.9	F
Schleisman Rd On-Ramp	1	54.5	31.4	D	53.5	33.1	D
Limonite Ave Off-Ramp	1	54.1	36.1	E	52.7	38.6	E
Limonite Ave On-Ramp	1	47.8	38.5	F	53.1	33.4	D
Cantu-Galleano Ranch Rd Off-Ramp	1	54.8	41.1	F	54.7	36.0	E
Cantu-Galleano Ranch Rd On-Ramp	1	48.1	38.6	F	50.7	36.3	E
SR-60 EB Off-Ramp	1	Lane Deletion					
SR-60 WB Off-Ramp	1	53.0	33.2	D	53.4	31.1	D
SR-60 WB On-Ramp (Major Merge)	2	-	-	D	-	-	D
SR-60 EB On-Ramp (Major Merge)	2	-	-	D	-	-	D
I-15 Southbound							
SR-60 Off-Ramp	2	45.4	43.9	F	46.3	39.1	F
SR-60 EB On-Ramp	1	54.0	32.1	D	50.9	35.8	E
SR-60 WB On-Ramp	1	51.9	35.1	E	50.1	36.9	F
Cantu-Galleano Ranch Rd Off-Ramp	1	54.0	31.4	D	54.1	32.5	D
Cantu-Galleano Ranch Rd WB On-Ramp	1	54.0	32.2	D	53.0	33.9	D
Cantu-Galleano Ranch Rd EB On-Ramp	1	56.9	24.6	C	56.7	25.2	C
Limonite Ave Off-Ramp	1	53.9	38.5	E	52.6	41.0	F
Limonite Ave On-Ramp	1	47.2	38.9	F	52.1	34.7	D
Schleisman Rd Off-Ramp	1	54.7	43.1	F	54.8	37.1	E

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Schleisman Rd On-Ramp	1	39.4	43.1	F	51.6	35.5	E
6 th St Off-Ramp	1	53.8	49.1	F	53.6	39.8	E
6 th St On-Ramp	1	41.7	42.3	F	50.7	36.3	E
2 nd St Off-Ramp	1	54.3	48.0	F	54.4	40.1	E
2 nd St On-Ramp	See Weave Analysis						
Hidden Valley Pkwy Off-Ramp	See Weave Analysis						
Hidden Valley Pkwy On-Ramp	1	56.9	24.4	C	56.9	24.4	C
SR-91 WB Off-Ramp (Major Diverge)	2	-	20.3	C	-	17.1	B
SR-91 EB Off-Ramp	1	52.0	30.2	D	52.6	30.7	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	C	-	-	C
SR-91 WB On-Ramp	See Weave Analysis						
Magnolia Ave Off-Ramp	See Weave Analysis						
Magnolia Ave On-Ramp	1	57.5	20.7	C	56.1	27.4	C
Ontario Ave Off-Ramp	1	52.5	29.7	D	53.4	33.9	D
Ontario Ave On-Ramp	1	57.8	18.1	B	55.8	28.1	D
El Cerrito Rd Off-Ramp	1	54.6	21.8	C	53.3	34.5	D
El Cerrito Rd On-Ramp	1	56.9	24.6	C	48.1	38.6	E
Cajalco Rd Off-Ramp	1	54.1	32.6	D	53.5	49.9	F
Cajalco Rd On-Ramp	1	59.8	25.7	C	40.8	42.6	F
Weirick Rd Off-Ramp	1	57.0	31.1	D	56.3	48.4	F
Weirick Rd On-Ramp	1	60.3	23.8	C	49.6	38.7	F
Temescal Canyon Rd Off-Ramp	1	56.9	29.7	D	56.2	43.8	F
Temescal Canyon Rd On-Ramp	1	60.6	22.6	C	49.9	38.3	F
Indian Truck Trail Off-Ramp	1	57.5	28.0	C	56.0	43.6	F
Indian Truck Trail On-Ramp	1	60.6	22.4	C	55.6	33.7	D
Lake St Off-Ramp	1	57.4	27.8	C	56.2	38.3	E
Lake St On-Ramp	1	59.7	25.8	C	56.9	31.9	D
Nichols Rd Off-Ramp	1	57.2	29.8	D	57.4	36.1	E
Nichols Rd On-Ramp	1	60.5	23.1	C	57.4	31.2	D
SR-74 Off-Ramp	2	56.9	15.0	B	56.6	23.3	C
SR-74 On-Ramp (Major Merge)	2	-	-	D	-	-	E
Main St Off-Ramp	1	57.8	34.2	D	56.7	42.1	E
Main St On-Ramp	1	59.4	26.9	C	55.5	33.6	D
Franklin St Off-Ramp	1	57.5	31.8	D	57.3	37.2	E
Franklin St On-Ramp	1	59.5	26.7	C	56.8	32.1	D
Railroad Canyon Rd Off-Ramp	2	56.7	18.4	B	55.5	24.5	C
Railroad Canyon Rd On-Ramp	1	59.7	26.0	C	57.3	31.2	D
Olive St Off-Ramp	1	57.1	31.0	D	56.4	35.9	E
Olive St On-Ramp	1	59.7	25.9	C	58.9	28.3	D
Bundy Canyon Rd Off-Ramp	1	57.2	30.8	D	56.9	33.4	D
Bundy Canyon Rd On-Ramp	1	58.7	28.4	D	58.2	29.5	D

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Baxter Rd Off-Ramp	1	57.8	32.0	D	57.5	33.4	D
Baxter Rd On-Ramp	1	58.5	29.1	D	58.0	29.9	D
Clinton Keith Rd Off-Ramp	2	56.0	20.4	C	55.0	21.3	C
Clinton Keith Rd On-Ramp	1	57.6	30.4	D	58.8	28.2	D
California Oaks Rd Off-Ramp	2	56.6	20.6	C	56.6	18.7	B
California Oaks Rd WB On-Ramp	1	58.8	28.4	D	59.3	27.0	C
California Oaks Rd EB On-Ramp	1	56.2	32.7	D	56.9	31.7	D
Murrieta Hot Springs Rd Off-Ramp	2	55.1	21.4	C	55.0	20.1	C
Murrieta Hot Springs Rd WB On-Ramp	1	60.2	24.5	C	60.6	22.5	C
Murrieta Hot Springs Rd EB On-Ramp	1	59.7	25.9	C	60.1	24.5	C

5.1.1.3 Weaving Level of Service

Year 2020 No Build a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 5.1.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. Year 2020 No Build freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.1.1.1-1a, 5.1.1.1-1b, 5.1.1.1-1c, and 5.1.1.1-1d**. As **Table 5.1.1.3-1** indicates, all freeway weaving segments are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Magnolia Avenue Westbound On-Ramp to SR-91 Off-Ramp (a.m. peak hour).

Table 5.1.1.3-1 - Year 2020 Freeway Weaving Segment Peak Hour Level of Service - No Build Alternative

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	4	42.4	47.2	F	43.0	43.0	E
Hidden Valley Pkwy On-Ramp/SR-91 HOT Lane Connector to 2 nd St Off-Ramp	5	58.3	25.7	C	56.7	26.8	C
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/SR-91 HOT Connector	5	52.1	31.3	D	55.0	26.8	C
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	45.8	28.5	D	43.4	36.8	E

- ◆ Temescal Canyon Road and Horsethief Canyon Road (a.m. and p.m. peak hours);
- ◆ Temescal Canyon Road and Lake Street (a.m. and p.m. peak hours);
- ◆ I-15 Southbound Ramps and Lake Street (p.m. peak hour);
- ◆ I-15 Northbound Ramps and Lake Street (a.m. and p.m. peak hours);
- ◆ I-15 Northbound Ramps and Nichols Road (p.m. peak hour);
- ◆ I-15 Southbound Ramps and Central Avenue (SR-74) (p.m. peak hour);
- ◆ Mission Trail and Olive Street (p.m. peak hour);
- ◆ I-15 Northbound Ramps and Baxter Road (p.m. peak hour).

Table 5.1.2.1-1 - Year 2020 Intersection Peak Hour Level of Service - No Build Alternative

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	0.75	18.4	B	1.02	46.0	D
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.31	12.4	B	0.22	12.5	B
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.26	20.8	C	0.3	25.3	C
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	0.62	36	D	0.57	33.9	C
5	Hamner Avenue and Limonite Avenue	Signal	1.23	100.9	F	1.21	101.9	F
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.67	11.4	B	1.19	96.5	F
7	I-15 Southbound Ramps and Limonite Avenue	Signal	1.00	45.6	D	1.02	50.9	D
8	I-15 Northbound Ramps and Limonite Avenue	Signal	0.8	25.7	C	0.97	36.2	D
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	1.00	A	N/A	7.7	A
10	Pats Ranch Road and Limonite Avenue	Signal	0.63	13.5	B	0.87	31.9	C
11	Wineville Road and Limonite Avenue	Signal	0.99	58.8	E	1.16	85.7	F
12	Hamner Avenue and Schleisman Road	Signal	3.55	256.1	F	3.45	234.9	F
13	I-15 Southbound Ramps and Schleisman Road	Signal	0.36	19.5	B	0.39	21.1	C
14	I-15 Northbound Ramps and Schleisman Road	Signal	0.40	17.1	B	0.54	14.5	B
15	Future Road (East of I-15) and Schleisman Road	Signal	0.37	6.8	A	0.34	7.8	A

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	0.83	42.0	D	0.92	42.7	D
17	I-15 Southbound Ramps and 6 th Street	Signal	0.66	23.9	C	0.90	31.4	C
18	I-15 Northbound Ramps and 6 th Street	Signal	0.52	13.4	B	0.86	26.3	C
19	Sierra Avenue and 6 th Street	Signal	0.56	29.3	C	0.59	27	C
20	Hamner Avenue and 2 nd Street	Signal	0.86	43.1	D	1.02	56.9	E
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.80	20.8	C	0.80	21.6	C
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.93	32.7	C	1.01	49.5	D
23	Valley View Avenue and 2 nd Street	AWSC	N/A	38.9	E	N/A	29.4	D
24	Hamner Avenue and Hidden Valley Parkway	Signal	1.44	140.1	F	1.48	175.1	F
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.74	20.1	C	1.41	48.3	D
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.64	4.5	A	0.97	10.2	B
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.67	6.3	A	1.19	63.8	E
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.58	20	C	0.8	48.9	D
29	Garland Way and Hidden Valley Parkway	Signal	0.50	28.1	C	0.66	29.5	C
30	Rimpau Avenue and Magnolia Avenue	Signal	0.79	40.9	D	1.62	243.7	F
31	El Sobrante Road and Magnolia Avenue	Signal	0.52	32.2	C	0.77	35.5	D
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	0.79	23.8	C	1.00	41.6	D
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.63	12.7	B	0.61	11.5	B
34	El Camino Avenue and Magnolia Avenue	Signal	0.63	53.6	D	0.63	37.0	D
35	Compton Avenue and Ontario Avenue	Signal	0.61	10.6	B	0.77	11.0	B
36	I-15 Southbound Ramps and Ontario Avenue	Signal	0.68	15.2	B	0.77	17.2	B
37	I-15 Northbound Ramps and Ontario Avenue	Signal	0.69	20.4	C	0.65	13.6	B
38	State Street and Ontario Avenue	2WSC	N/A	54.7	F	N/A	> 500	F
39	Crossroads Street and Foothill Parkway	Signal	0.79	51.0	D	1.13	136.6	F

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	1.03	69.2	E	1.32	197.2	F
41	I-15 Southbound Ramps and El Cerrito Road	Signal	0.92	46.8	D	1.12	78.5	E
42	I-15 Northbound Ramps and El Cerrito Road	Signal	0.78	28.1	C	0.44	14.0	B
43	Katy Way and El Cerrito Road	AWSC	N/A	80.6	F	N/A	184.3	F
44	Bedford Canyon Road and Cajalco Road	Signal	0.90	27.3	C	1.15	89.7	F
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.51	10.1	B	0.83	22.6	C
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.39	8.0	A	0.37	5.8	A
47	Grand Oaks Road and Cajalco Road	Signal	0.32	7.2	A	0.53	21.6	C
48	Temescal Canyon Road and Cajalco Road	Signal	0.87	42.8	D	0.81	195.5	F
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.52	28.5	C	0.68	39.7	D
50	I-15 Southbound Ramps and Weirick Road	Signal	0.49	20.2	C	0.37	26.3	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.54	26.4	C	0.34	14.4	B
52	Temescal Canyon Road and Weirick Road	Signal	0.76	41.9	D	0.50	26.1	C
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.57	15.7	B	0.55	17.4	B
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.66	18.7	B	0.67	23.8	C
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	0.38	18.1	B	0.54	17.9	B
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.62	13.7	B	0.62	14.6	B
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.37	17.0	B	0.38	15.8	B
58	I-15 Southbound Ramps and Indian Truck Trail	Signal	0.25	27.3	C	0.31	12.5	B
59	I-15 Northbound Ramps and Indian Truck Trail	Signal	0.19	28.3	C	0.15	21.5	C
60	Temescal Canyon Road and Indian Truck Trail	Signal	16.9	0.54	B	N/A	12.7	B
61	De Palma Road and Horsethief Canyon Road	1WSC	N/A	5.5	A	N/A	374.5	F
62	I-15 Southbound Ramps and Horsethief Canyon Road		Future Intersection					
63	I-15 Northbound Ramps and Horsethief Canyon Road		Future Intersection					

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
64	Temescal Canyon Road and Horsethief Canyon Road	1WSC	N/A	> 500	F	N/A	165.9	F
65	Temescal Canyon Road and Lake Street	Signal	0.94	72.9	E	1.32	151.5	F
66	I-15 Southbound Ramps and Lake Street	1WSC	N/A	2.0	A	N/A	69.2	F
67	I-15 Northbound Ramps and Lake Street	1WSC	N/A	> 500	F	N/A	173.1	F
68	Walker Canyon Road and Lake Street	2WSC	N/A	0.6	A	N/A	0.4	A
69	Collier Avenue and Nichols Road	1WSC	N/A	9.4	A	N/A	8.4	A
70	I-15 Southbound Ramps and Nichols Road	1WSC	N/A	14.9	B	N/A	24.3	C
71	I-15 Northbound Ramps and Nichols Road	1WSC	N/A	3.7	A	N/A	126.3	F
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.85	43.3	D	0.76	35.8	D
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	1.00	13.6	B	0.96	> 500	F
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.62	9.5	A	0.64	9.9	A
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.6	21.8	C	0.56	17.0	B
76	Flint Street and Main Street	2WSC	N/A	6.6	A	N/A	20.8	C
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	6.5	A	N/A	8.6	A
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	11.9	B	N/A	8.3	A
79	Camino Del Norte and Main Street	1WSC	N/A	3.8	A	N/A	9.2	A
80	Auto Center Drive and Franklin Street	Signal	0.39	20.5	C	0.34	19.5	C
81	I-15 Southbound Ramps and Franklin Street	Signal	0.23	17.6	B	0.25	12.5	B
82	I-15 Northbound Ramps and Franklin Street	Signal	0.20	14.2	B	0.18	18.5	B
83	Canyon Estates Drive and Franklin Street	Signal	0.55	23.2	C	0.58	46.4	D
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	0.41	22.3	C	0.85	37.4	D
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.17	20.2	C	0.29	24.4	C
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.36	7.6	A	0.38	10.1	B
87	Summerhill Drive and Railroad Canyon Road	Signal	0.78	42.0	D	0.96	40.4	D

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
88	Mission Trail and Olive Street	Signal	0.99	35.9	D	1.10	75.9	E
89	I-15 Southbound Ramps and Olive Street	Signal	0.49	17.1	B	0.55	13.8	B
90	I-15 Northbound Ramps and Olive Street	Signal	0.55	22.6	C	0.51	19.4	B
91	Grape Street and Olive Street	Signal	0.55	15.7	B	0.80	22.3	C
92	Orange Street and Bundy Canyon Road	Signal	0.57	21.9	C	0.46	17.6	B
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.57	18.3	B	0.76	22.3	C
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.51	14.8	B	0.77	20.4	C
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	1.4	A	N/A	11.8	B
96	Central Street and Baxter Road	Signal	0.43	7.6	A	0.65	11.8	B
97	I-15 Southbound Ramps and Baxter Road	1WSC	N/A	2.3	A	N/A	12.1	B
98	I-15 Northbound Ramps and Baxter Road	1WSC	N/A	3.8	A	N/A	178.5	F
99	Monte Vista Drive and Baxter Road	1WSC	N/A	4.8	A	N/A	5.1	A
100	Hidden Springs Road and Clinton Keith Road	Signal	0.56	28.7	C	0.66	32.9	C
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.51	18.6	B	0.67	21.0	C
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.54	14.5	B	0.54	16.6	B
103	Arya Drive and Clinton Keith Road	Signal	0.70	21.9	C	0.88	36.8	D
104	Madison Avenue and Kalmia Street	Signal	0.48	27.4	C	0.70	30.2	C
105	I-15 Southbound Ramps and Kalmia Street	No conflicting movements						
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.39	13.3	B	0.57	14.9	B
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.41	21.1	C	0.55	24.5	C
108	Monroe Avenue and California Oaks Road	Signal	0.45	25.2	C	0.52	29.2	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.39	32.5	C	0.85	50.2	D
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.50	12.8	B	0.62	14.5	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.40	9.3	A	0.60	9.1	A

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	3.3	A	N/A	14.2	B
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.48	20.1	C	0.64	21	C

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control 2WSC - Two-Way Stop Control AWSC - All-Way Stop Control

5.1.2.2 Queuing Analysis

A queuing analysis using the previously described methodologies was conducted to determine the queue lengths at the freeway ramp intersections. The results of the queuing analysis are summarized in **Table 5.1.2.2-1**. As can be seen from **Table 5.1.2.2-1**, the 95th percentile queue lengths of several turning movements are forecast to exceed the maximum available storage length during the a.m. or p.m. peak hour. Detailed queuing reports are included in **Appendix L**.

Table 5.2.1.1-1 - Year 2020 Freeway Mainline Peak Hour Level of Service - Build Alternative 1

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge to Murrieta Hot Springs Rd Off-Ramp/HOV Ingress	3	66.5	13.5	B	65.0	27.9	D
Murrieta Hot Springs Rd Off-Ramp/HOV Ingress to Murrieta Hot Springs Rd EB On-Ramp	3	66.5	12.1	B	66.0	25.3	C
Murrieta Hot Springs Rd EB On-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.5	14.7	B	65.1	27.7	D
Murrieta Hot Springs Rd WB On-Ramp to California Oaks Rd Off-Ramp	4	68.0	13.6	B	67.2	25.0	C
California Oaks Rd Off-Ramp to California Oaks Rd EB On-Ramp	3	66.5	14.7	B	64.6	28.6	D
California Oaks Rd EB On-Ramp to California Oaks Rd WB On-Ramp	3	66.5	15.8	B	63.1	31.2	D
California Oaks Rd WB On-Ramp to HOV Access	4	68.0	12.6	B	67.7	23.3	C
HOV Access to Clinton Keith Rd Off-Ramp	4	68.0	11.9	B	67.9	22.2	C
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.5	13.0	B	65.8	26.0	D
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	4	68.0	13.7	B	67.9	22.4	C
Baxter Rd Off-Ramp to HOV Access	4	68.0	13.2	B	68.0	20.6	C
HOV Access to Baxter Rd On-Ramp	4	68.0	12.0	B	68.0	20.1	C
Baxter Rd On-Ramp to Bundy Canyon Rd Off-Ramp	4	68.0	12.7	B	68.0	21.1	C
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.5	15.4	B	66.1	24.8	C
Bundy Canyon Rd On-Ramp to Olive St Off-Ramp	3	66.5	17.7	B	65.4	27.0	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.5	16.7	B	66.2	24.2	C
Olive St On-Ramp to Railroad Canyon Rd Off-Ramp	3	66.5	20.1	C	65.5	26.8	D
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.5	19.0	C	66.3	24.0	C
Railroad Canyon Rd On-Ramp to Franklin St Off-Ramp	3	66.4	23.1	C	65.1	27.7	D
Franklin St Off-Ramp to Franklin St On-Ramp	3	66.5	22.5	C	65.5	26.8	D
Franklin St On-Ramp to Main St Off-Ramp	3	65.7	26.3	D	64.9	28.1	D
Main St Off-Ramp/HOV Access to Main St On-Ramp	3	66.2	24.4	C	65.7	26.1	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Main St On-Ramp to SR-74 Off-Ramp	4	68.0	18.4	C	68.0	19.5	C
SR-74 Off-Ramp to SR-74 EB On-Ramp	3	66.5	22.1	C	66.5	20.1	C
SR-74 EB On-Ramp to SR-74 WB On-Ramp	4	68.0	18.0	B	68.0	16.0	B
SR-74 WB On-Ramp to HOV Access	4	68.5	19.4	C	68.5	16.8	B
HOV Access to Nichols Rd Off-Ramp	4	68.5	19.8	C	68.5	16.8	B
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	4	68.5	19.5	C	68.5	16.2	B
Nichols Rd On-Ramp to HOV Access	4	68.5	20.3	C	68.5	17.1	B
HOV Access to Lake St Off-Ramp	4	68.5	19.9	C	68.5	16.9	B
Lake St Off-Ramp to Lake St On-Ramp	4	68.5	19.5	C	68.5	14.9	B
Lake St On-Ramp to HOV Access	4	68.3	22.5	C	68.5	16.2	B
HOV Access to Indian Truck Trail Off-Ramp	4	68.4	21.8	C	68.5	16.6	B
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	68.4	21.4	C	68.5	16.2	B
Indian Truck Trail On-Ramp to HOV Access	4	68.0	23.9	C	68.5	17.6	B
HOV Access to Temescal Canyon Rd Off-Ramp	4	68.1	23.6	C	68.5	17.4	B
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	4	68.2	22.9	C	68.5	16.5	B
Temescal Canyon Rd On-Ramp to HOV Access	4	67.5	25.3	C	68.5	18.5	C
HOV Access to Weirick Rd Off-Ramp	4	67.7	24.7	C	68.5	18.5	C
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	4	68.1	23.6	C	68.5	18.1	C
Weirick Rd On-Ramp to Cajalco Rd Off-Ramp/HOV Access	5	69.9	20.5	C	70.0	15.9	B
Cajalco Rd Off-Ramp/HOV Access to Cajalco Rd EB On-Ramp	4	63.0	27.8	D	63.5	21.0	C
Cajalco Rd EB On-Ramp to Cajalco Rd WB On-Ramp	4	61.0	32.1	D	63.5	23.4	C
Cajalco Rd WB On-Ramp to El Cerrito Rd Off-Ramp	5	63.3	27.0	D	63.7	20.5	C
El Cerrito Rd Off-Ramp to El Cerrito Rd On-Ramp	4	59.0	34.5	D	62.2	25.5	C
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	See Weaving Analysis					

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Ontario Ave Off-Ramp to HOV Access/SR-91 HOT Connector	4	55.3	39.8	E	62.2	25.2	C
HOV Access/SR-91 HOT Connector to Ontario Ave On-Ramp	4	53.8	41.9	E	62.2	25.6	C
Ontario Ave On-Ramp to Magnolia Ave Off-Ramp/HOV Access	4	-	>45	F	60.9	30.9	D
Magnolia Ave Off-Ramp/HOV Access to Magnolia Ave EB On-Ramp	4	59.3	34.0	D	62.2	25.9	C
Magnolia Ave EB On-Ramp to Magnolia Ave WB On-Ramp	4	55.4	39.6	E	60.7	31.4	D
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	5	See Weaving Analysis					
SR-91 Off-Ramp to SR-91 WB On-Ramp	4	62.2	18.2	C	62.2	17.3	B
SR-91 WB On-Ramp to SR-91 EB On-Ramp	4	62.2	24.4	C	62.2	24.1	C
SR-91 EB On-Ramp to Hidden Valley Pkwy Off-Ramp	5	64.2	23.2	C	64.2	21.5	C
Hidden Valley Pkwy Off-Ramp to HOV Access/SR-91 HOT Connector	4	62.5	27.2	D	62.7	24.6	C
HOV Access/SR-91 HOT Connector to Hidden Valley Pkwy On-Ramp	4	61.1	31.2	D	62.7	25.0	C
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	See Weaving Analysis					
2 nd St Off-Ramp to 2 nd St On-Ramp	4	62.2	28.5	D	62.2	28.6	D
2 nd St On-Ramp to HOV Access	4	61.6	30.1	D	60.0	33.2	D
HOV Access to 6 th St Off-Ramp	4	61.3	30.7	D	60.0	33.2	D
6 th St Off-Ramp to 6 th St On-Ramp	4	62.4	27.6	D	62.1	28.8	D
6 th St On-Ramp to Schleisman Rd Off-Ramp/HOV Access	4	61.7	29.8	D	60.0	33.3	D
Schleisman Rd Off-Ramp/HOV Access to Schleisman Rd On-Ramp	4	62.5	27.0	D	61.7	29.9	D
Schleisman Rd On-Ramp to Limonite Ave Off-Ramp	4	61.6	30.0	D	60.8	31.8	D
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	62.4	27.5	D	62.7	26.0	D
Limonite Ave On-Ramp to HOV Access	4	58.2	35.9	E	61.7	29.8	D
HOV Access to Cantu-Galleano Ranch Rd Off-Ramp	4	55.3	40.0	E	61.1	31.3	D
Cantu-Galleano Ranch Rd Off-Ramp to HOV Egress	4	57.7	36.7	E	62.0	28.9	D
HOV Egress to Cantu-Galleano Ranch Rd On-Ramp	5	62.4	30.3	D	63.9	26.5	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Cantu-Galleano Ranch Rd On-Ramp to SR-60 EB Off-Ramp	5	61.0	32.7	D	62.9	29.4	D
SR-60 EB Off-Ramp to SR-60 WB Off-Ramp	4	56.7	38.1	E	57.9	36.4	E
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	-	>45	F	-	>45	F
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	55.3	40.0	E	57.3	37.2	E
North of SR-60 EB On-Ramp	5	57.5	37.7	E	55.6	40.2	E
I-15 Southbound							
North of SR-60 Off-Ramp	4	-	>45	F	-	>45	F
SR-60 Off-Ramp to HOV Access Ingress	4	60.7	32.0	D	62.1	28.8	D
HOV Access Ingress to SR-60 EB On-Ramp	3	59.0	33.7	D	59.0	33.6	D
SR-60 EB On-Ramp to SR-60 WB On-Ramp	4	62.4	27.6	D	61.5	30.4	D
SR-60 WB On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	5	64.2	24.1	C	63.8	26.8	D
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd WB On-Ramp	4	62.1	28.8	D	59.8	33.6	D
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	4	61.2	31.0	D	58.0	36.2	E
Cantu-Galleano Ranch Rd EB On-Ramp to Lane Deletion	5	64.2	24.6	C	63.6	27.6	D
Lane Deletion to HOV Access	4	60.2	32.8	D	55.8	39.4	E
HOV Access to Limonite Ave Off-Ramp	4	59.9	33.4	D	57.2	37.3	E
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	61.9	29.3	D	62.0	29.0	D
Limonite Ave On-Ramp to Schleisman Rd Off-Ramp/ HOV Access	4	58.1	36.1	E	59.8	33.6	D
Schleisman Rd Off-Ramp/ HOV Access to Schleisman Rd On-Ramp	4	60.0	33.2	D	60.8	31.7	D
Schleisman Rd On-Ramp to 6 th St Off-Ramp	4	54.9	40.6	E	59.0	34.8	D
6 th St Off-Ramp to 6 th St On-Ramp	4	58.7	35.2	E	61.2	31.0	D
6 th St On-Ramp to HOV Access	4	55.5	39.8	E	59.5	34.1	D
HOV Access to 2 nd St Off-Ramp	4	56.4	38.4	E	59.9	33.4	D
2 nd St Off-Ramp to 2 nd St On-Ramp	4	59.0	34.7	D	61.1	31.3	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/HOV Access/SR-91 HOT Connector	5	See Weaving Analysis					
Hidden Valley Pkwy Off-Ramp/HOV Access/SR-91 HOT Connector to Hidden Valley Pkwy On-Ramp	4	59.3	34.4	D	61.9	29.4	D
Hidden Valley Pkwy On-Ramp to SR-91WB Off-Ramp	5	63.8	26.9	D	64.2	24.6	C
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	4	62.7	21.6	C	62.7	22.8	C
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	4	62.7	14.7	B	62.7	18.0	C
SR-91 EB On-Ramp to SR-91 WB On-Ramp	4	62.7	22.4	C	62.5	27.1	D
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weaving Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp/HOV Access/SR-91 HOT Connector	4	62.2	22.1	C	60.7	31.4	D
Magnolia Ave On-Ramp/HOV Access/SR-91 HOT Connector to Ontario Ave Off-Ramp/HOV Access	4	62.0	27.3	D	-	>45	F
Ontario Ave Off-Ramp/HOV Access to Ontario Ave On-Ramp	4	62.2	19.7	C	56.7	37.8	E
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp	5	See Weaving Analysis					
El Cerrito Rd Off-Ramp to El Cerrito Rd On-Ramp	4	62.2	20.8	C	56.2	38.6	E
El Cerrito Rd On-Ramp to Cajalco Rd Off-Ramp	5	See Weaving Analysis					
Cajalco Rd Off-Ramp to Cajalco Rd Loop On-Ramp/HOV Access	4	62.2	19.3	C	57.4	36.9	E
Cajalco Rd Loop On-Ramp/HOV Access to Weirick Rd Off-Ramp	4	68.5	18.1	C	58.9	37.6	E
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	4	68.5	16.7	B	63.5	31.7	D
Weirick Rd On-Ramp to HOV Access	4	68.5	16.9	B	62.8	32.7	D
HOV Access to Temescal Canyon Rd Off-Ramp	4	68.5	16.9	B	62.7	32.8	D
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	4	68.5	15.1	B	64.4	30.6	D
Temescal Canyon Rd On-Ramp to HOV Access	4	68.5	15.7	B	62.7	32.8	D
HOV Access to Indian Truck Trail Off-Ramp	4	68.5	16.0	B	62.2	33.5	D
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	68.5	15.3	B	65.6	28.8	D
Indian Truck Trail On-Ramp to HOV Access	4	68.5	15.9	B	65.2	29.4	D
HOV Access to Lake St Off-Ramp	4	68.5	16.0	B	64.6	30.3	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Lake St Off-Ramp to Lake St On-Ramp	4	68.5	14.8	B	67.0	26.4	D
Lake St On-Ramp to HOV Access	4	68.5	17.4	B	66.3	27.8	D
HOV Access to Nichols Rd Off-Ramp	4	68.5	17.1	B	66.2	27.9	D
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	4	68.5	16.2	B	67.2	26.1	D
Nichols Rd On-Ramp to HOV Access	4	68.5	16.5	B	66.7	27.0	D
HOV Access to SR-74 Off-Ramp	4	68.5	17.6	B	66.7	26.9	D
SR-74 Off-Ramp to SR-74 On-Ramp	3	67.0	21.4	C	59.8	35.8	E
SR-74 On-Ramp to Main St Off-Ramp	5	69.5	15.5	B	69.3	21.5	C
Main St Off-Ramp to Lane Deletion/HOV Access	4	68.0	19.3	C	67.1	25.3	C
Lane Deletion/HOV Access to Main St On-Ramp	3	65.6	26.4	D	56.4	39.9	E
Main St On-Ramp to Franklin St Off-Ramp	4	68.0	20.0	C	66.6	26.5	D
Franklin St Off-Ramp to Franklin St On-Ramp	4	68.0	18.9	C	67.5	24.2	C
Franklin St On-Ramp to Railroad Canyon Rd Off-Ramp	4	68.0	20.0	C	67.3	24.9	C
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	65.8	26.0	C	64.2	29.3	D
Railroad Canyon Rd On-Ramp to Olive St Off-Ramp	3	65.0	27.9	D	61.7	33.1	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.0	25.2	C	64.5	28.7	D
Olive St On-Ramp to Bundy Canyon Rd Off-Ramp	3	65.6	26.6	D	64.2	29.3	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp/HOV Access	3	66.2	24.5	C	65.8	25.9	C
Bundy Canyon Rd On-Ramp/HOV Access to Baxter Rd Off-Ramp	3	64.2	29.3	D	62.3	32.2	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	64.6	28.7	D	63.7	30.2	D
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	4	67.9	22.2	C	67.8	22.6	C
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	65.8	26.1	D	65.9	25.5	C
Clinton Keith Rd On-Ramp to HOV Access	3	62.3	32.2	D	64.0	29.8	D
HOV Access to California Oaks Rd Off-Ramp	3	61.4	33.5	D	62.5	32.0	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
California Oaks Rd Off-Ramp to California Oaks Rd WB On-Ramp	3	64.6	28.7	D	65.5	26.8	D
California Oaks Rd WB On-Ramp to California Oaks Rd EB On-Ramp	3	62.7	31.6	D	64.0	29.7	D
California Oaks Rd EB On-Ramp to Murrieta Hot Springs Rd Off-Ramp	4	67.7	23.3	C	67.9	22.4	C
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	65.8	26.1	D	66.4	23.4	C
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	65.5	26.7	D	66.3	23.7	C
Murrieta Hot Springs Rd EB On-Ramp to I-215 On-Ramp (/HOV Egress)	3	64.9	28.1	D	66.0	25.2	C

5.2.1.2 Ramp Level of Service

Year 2020 Build Alternative 1 a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 5.2.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Year 2020 Build Alternative 1 freeway ramp levels of service, number of lanes and volumes are illustrated in previously referenced **Figures 5.2.1.1-1a, 5.2.1.1-1b, 5.2.1.1-1c, and 5.2.1.1-1d**. As **Table 5.2.1.2-1** indicates, all freeway ramp junctions are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Ontario Ave On-Ramp (a.m. peak hours);
- ◆ Magnolia Ave Off-Ramp (a.m. peak hours).

I-15 Southbound

- ◆ SR-60 Off-Ramp (a.m. and p.m. peak hours);
- ◆ Ontario Ave Off-Ramp (p.m. peak hours);
- ◆ Temescal Canyon Rd Off-Ramp (p.m. peak hours);
- ◆ Indian Truck Trail Off-Ramp (p.m. peak hour);
- ◆ Lake St Off-Ramp (p.m. peak hour);
- ◆ Olive St Off-Ramp (p.m. peak hour).

Table 5.2.1.2-1 - Year 2020 Freeway Ramp Peak Hour Level of Service - Build Alternative 1

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp/HOV Ingress	1	57.3	19.5	B	56.9	32.7	D
Murrieta Hot Springs Rd EB On-Ramp	1	61.4	16.7	B	59.0	27.8	C
Murrieta Hot Springs Rd WB On-Ramp	1	Lane Addition					
California Oaks Rd Off-Ramp	1	Lane Deletion					
California Oaks Rd EB On-Ramp	1	61.4	17.0	B	58.0	30.0	D
California Oaks Rd WB On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	5.6	A	-	7.9	A
Clinton Keith Rd On-Ramp	1	Lane Addition					
Baxter Rd Off-Ramp	1	57.7	17.5	B	56.8	28.2	D
Baxter Rd On-Ramp	1	61.7	13.3	B	60.9	20.7	C
Bundy Canyon Rd Off-Ramp (Major Diverge)	2	-	3.4	A	-	7.0	A
Bundy Canyon Rd On-Ramp	1	61.1	19.3	B	59.2	27.3	C
Olive St Off-Ramp	1	57.5	23.7	C	56.8	32.2	D
Olive St On-Ramp	1	60.6	22.2	C	59.2	27.4	C
Railroad Canyon Rd Off-Ramp	2	57.5	12.3	B	56.8	18.4	B
Railroad Canyon Rd On-Ramp	1	59.8	25.3	C	58.7	28.5	D
Franklin St Off-Ramp	1	57.7	33.3	D	57.7	34.9	D
Franklin St On-Ramp	1	59.0	27.6	C	59.1	27.6	C
Main St Off-Ramp	1	57.2	33.3	D	57.0	32.8	D
Main St On-Ramp (Major Merge)	2	-	-	C	-	-	C
SR-74 Off-Ramp (Major Diverge)	2	-	5.3	A	-	11.4	B
SR-74 EB On-Ramp	1	Lane Addition					
SR-74 WB On-Ramp	1	61.0	20.2	C	61.4	17.3	B
Nichols Rd Off-Ramp	1	57.8	23.7	C	57.6	21.0	C
Nichols Rd On-Ramp	1	61.0	20.0	B	61.3	17.5	B
Lake St Off-Ramp	1	57.7	23.9	C	56.7	22.9	C
Lake St On-Ramp	1	60.1	24.4	C	61.4	17.1	B
Indian Truck Trail Off-Ramp	2	57.7	13.1	B	57.8	8.2	A
Indian Truck Trail On-Ramp (Major Merge)	2	-	-	C	-	-	B
Temescal Canyon Rd Off-Ramp	2	57.6	14.7	B	57.4	8.9	A
Temescal Canyon Rd On-Ramp	1	59.8	25.4	C	61.0	19.9	B
Weirick Rd Off-Ramp	2	57.4	15.5	B	57.8	10.0	A
Weirick Rd On-Ramp	1	Lane Addition					
Cajalco Rd Off-Ramp (Major Diverge)	2	-	2.3	A	-	2.9	A
Cajalco Rd EB On-Ramp	1	55.2	29.7	D	57.2	22.7	C
Cajalco Rd WB On-Ramp (Major Merge)	2	-	-	D	-	-	C
El Cerrito Rd Off-Ramp	1	Lane Deletion					
El Cerrito Rd On-Ramp	See Weave Analysis						

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Ontario Ave Off-Ramp		See Weave Analysis					
Ontario Ave On-Ramp	1	48.2	38.2	F	54.9	30.1	D
Magnolia Ave Off-Ramp	2	53.5	33.5	F	54.0	18.4	B
Magnolia Ave EB On-Ramp	1	53.9	32.2	D	54.8	30.5	D
Magnolia Ave WB On-Ramp		See Weave Analysis					
SR-91 Off-Ramp		See Weave Analysis					
SR-91 WB On-Ramp	1	56.0	27.3	C	55.9	27.6	C
SR-91 EB On-Ramp (Major Merge)	2	-	-	C	-	-	C
Hidden Valley Pkwy Off-Ramp	1	Lane Deletion					
Hidden Valley Pkwy On-Ramp		See Weave Analysis					
2 nd St Off-Ramp		See Weave Analysis					
2 nd St On-Ramp	1	56.5	26.3	C	54.9	30.2	D
6 th St Off-Ramp	2	53.8	18.4	B	53.5	20.0	B
6 th St On-Ramp	1	56.3	26.6	C	55.0	30.1	D
Schleisman Rd Off-Ramp	1	54.1	33.0	D	53.5	36.8	E
Schleisman Rd On-Ramp	1	56.0	27.5	C	56.1	27.4	C
Limonite Ave Off-Ramp	2	54.0	18.0	B	52.6	19.2	B
Limonite Ave On-Ramp	1	53.0	31.6	D	56.4	25.7	C
Cantu-Galleano Ranch Rd Off-Ramp	1	54.3	38.1	E	54.2	33.8	D
Cantu-Galleano Ranch Rd On-Ramp	1	56.8	24.6	C	57.0	23.9	C
SR-60 EB Off-Ramp	1	Lane Deletion					
SR-60 WB Off-Ramp	1	Lane Deletion					
SR-60 WB On-Ramp (Major Merge)	2	-	-	E	-	-	E
SR-60 EB On-Ramp (Major Merge)	2	-	-	E	-	-	E
I-15 Southbound							
SR-60 Off-Ramp	2	46.3	48.1	F	46.9	40.9	F
SR-60 EB On-Ramp	1	Lane Addition					
SR-60 WB On-Ramp	1	Lane Addition					
Cantu-Galleano Ranch Rd Off-Ramp (Major Diverge)	2	-	5.2	A	-	4.6	A
Cantu-Galleano Ranch Rd WB On-Ramp	1	56.2	27.2	C	55.3	29.5	D
Cantu-Galleano Ranch Rd EB On-Ramp	1	Lane Addition					
Limonite Ave Off-Ramp	2	53.6	20.0	C	52.4	22.0	C
Limonite Ave On-Ramp	1	54.3	29.5	D	55.7	27.1	C
Schleisman Rd Off-Ramp	1	54.5	35.9	E	54.4	34.7	D
Schleisman Rd On-Ramp	1	53.0	33.5	D	55.3	29.4	D
6 th St Off-Ramp	2	53.8	23.2	C	53.8	20.8	C
6 th St On-Ramp	1	54.3	31.6	D	55.5	29.2	D
2 nd St Off-Ramp	1	54.2	37.9	E	54.4	34.7	D
2 nd St On-Ramp		See Weave Analysis					
Hidden Valley Pkwy Off-Ramp		See Weave Analysis					
Hidden Valley Pkwy On-Ramp	1	Lane Addition					

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-91 WB Off-Ramp (Major Diverge)	2	-	27.5	B	-	18.9	B
SR-91 EB Off-Ramp	1	51.5	31.8	D	52.7	30.3	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	C	-	-	D
SR-91 WB On-Ramp	See Weave Analysis						
Magnolia Ave Off-Ramp	See Weave Analysis						
Magnolia Ave On-Ramp	1	57.2	22.6	C	53.6	32.6	D
Ontario Ave Off-Ramp	1	52.5	24.2	C	53.4	33.4	F
Ontario Ave On-Ramp	See Weave Analysis						
El Cerrito Rd Off-Ramp	See Weave Analysis						
El Cerrito Rd On-Ramp	See Weave Analysis						
Cajalco Rd Off-Ramp	See Weave Analysis						
Cajalco Rd Loop On-Ramp	1	57.9	17.9	B	54.8	30.7	D
Weirick Rd Off-Ramp	2	57.0	9.7	A	56.1	23.0	C
Weirick Rd On-Ramp	1	61.5	16.3	B	59.0	28.0	C
Temescal Canyon Rd Off-Ramp	1	56.8	22.6	C	57.1	35.6	E
Temescal Canyon Rd On-Ramp (Major Merge)	2	-	-	B	-	-	D
Indian Truck Trail Off-Ramp	1	57.5	20.4	C	56.1	37.8	E
Indian Truck Trail On-Ramp	1	61.5	16.1	B	59.7	26.1	C
Lake St Off-Ramp	1	57.2	21.0	C	56.1	36.0	E
Lake St On-Ramp	1	61.1	19.6	B	59.7	25.9	C
Nichols Rd Off-Ramp	1	57.4	21.7	C	57.0	32.6	D
Nichols Rd On-Ramp	1	61.5	16.1	B	60.0	25.1	C
SR-74 Off-Ramp (Major Diverge)	2	-	4.5	A	-	6.7	A
SR-74 On-Ramp	2	Lane Addition					
Main St Off-Ramp (Major Diverge)	2	-	1.2	A	-	5.7	A
Main St On-Ramp	1	Lane Addition					
Franklin St Off-Ramp	1	57.3	24.7	C	56.7	32.0	D
Franklin St On-Ramp	1	61.0	20.0	B	60.4	23.2	C
Railroad Canyon Rd Off-Ramp (Major Diverge)	2	-	2.8	A	-	9.1	A
Railroad Canyon Rd On-Ramp	1	59.0	27.8	C	57.1	31.4	D
Olive St Off-Ramp	1	56.9	32.8	D	56.6	35.6	E
Olive St On-Ramp	1	59.5	26.6	C	58.9	28.2	D
Bundy Canyon Rd Off-Ramp	2	57.1	18.2	B	56.7	20.3	C
Bundy Canyon Rd On-Ramp	1	58.1	29.6	D	58.2	29.6	D
Baxter Rd Off-Ramp	1	57.8	33.5	D	57.4	34.8	D
Baxter Rd On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	7.7	A	-	9.7	A
Clinton Keith Rd On-Ramp	1	56.6	32.0	D	57.9	30.0	D
California Oaks Rd Off-Ramp	2	56.5	22.9	C	56.2	22.0	C
California Oaks Rd WB On-Ramp	1	57.0	29.0	D	56.9	27.9	C
California Oaks Rd EB On-Ramp	1	Lane Addition					

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Murrieta Hot Springs Rd Off-Ramp (Major Diverge)	2	-	10.2	B	-	12.4	B
Murrieta Hot Springs Rd WB On-Ramp	1	57.7	26.9	C	57.9	24.7	C
Murrieta Hot Springs Rd EB On-Ramp	1	57.5	27.5	C	57.3	25.3	C

5.2.1.3 Weaving Level of Service

Year 2020 Build Alternative 1 a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 5.2.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. As **Table 5.2.1.3-1** indicates, all freeway weaving segments are projected to operate at satisfactory levels of service.

Year 2020 Build Alternative 1 freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.2.1.1-1a, 5.2.1.1-1b, 5.2.1.1-1c, and 5.2.1.1-1d**.

Table 5.2.1.3-1 - Year 2020 Freeway Weaving Segment Peak Hour Level of Service - Build Alternative 1

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	56.0	33.9	D	62.0	21.7	C
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	5	43.9	41.5	E	46.4	35.0	E
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	56.7	28.7	D	53.8	28.9	D
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/HOV Access/SR-91 HOT Connector	5	59.3	29.7	D	60.0	27.8	C
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	52.6	26.9	C	51.8	34.8	D
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp	5	64.2	16.9	B	58.1	33.0	D
El Cerrito Rd On-Ramp to Cajalco Rd Off-Ramp	5	62.9	17.3	B	59.8	31.1	D

5.2.1.4 HOV Segment Level of Service

Year 2020 Build Alternative 1 a.m. and p.m. peak hour levels of service for the study area freeway HOV segments are summarized in **Table 5.2.1.4-1**. The analysis for HOV segments was conducted based on previously discussed methodologies. As **Table 5.2.1.4-1** indicates, all the freeway segments in the study area are projected to operate at satisfactory levels of service during both the a.m. and p.m. peak hours, with the following exceptions:

I-15 Northbound

- ◆ Weirick Road to Cajalco Road (a.m. peak hour);
- ◆ Hidden Valley Parkway to 2nd Street (p.m. peak hour);
- ◆ 2nd Street to 6th Street (p.m. peak hour);
- ◆ 6th Street to Schleisman Road (p.m. peak hour).

I-15 Southbound

- ◆ SR-60 to Cantu-Galleano Ranch Road (a.m. peak hour);
- ◆ Cantu-Galleano Ranch Road to Limonite Avenue (a.m. peak hour);
- ◆ Limonite Avenue to Schleisman Road (a.m. peak hour);
- ◆ Schleisman Road to 6th Street (a.m. peak hour);
- ◆ 6th Street to 2nd Street (a.m. peak hour);
- ◆ 2nd Street to Hidden Valley Parkway (a.m. peak hour).

Table 5.2.1.4-1 - Year 2020 Freeway HOV Segment Peak Hour Level of Service - Build Alternative 1

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
I-15 Northbound								
Murrieta Hot Springs Rd to California Oaks Rd	1	1600	701	0.44	A	433	0.27	A
California Oaks Road to Clinton Keith Rd	1	1600	908	0.57	A	712	0.45	A
Clinton Keith Rd to Baxter Rd	1	1600	908	0.57	A	712	0.45	A
Baxter Rd to Bundy Canyon Rd	1	1600	1209	0.76	C	836	0.52	A
Bundy Canyon Rd to Olive St	1	1600	1209	0.76	C	836	0.52	A
Olive St to Railroad Canyon Rd	1	1600	1209	0.76	C	836	0.52	A
Railroad Canyon Rd to Franklin St	1	1600	1209	0.76	C	836	0.52	A
Franklin St to Main St	1	1600	1209	0.76	C	836	0.52	A
Main St to Central Av	1	1600	1211	0.76	C	756	0.47	A
Central Ave to Nichols Rd	1	1600	1211	0.76	C	756	0.47	A
Nichols Rd to Lake St	1	1600	1115	0.70	B	776	0.49	A
Lake St to Horsethief Canyon Rd	1	1600	1230	0.77	C	849	0.53	A
Horsethief Canyon Rd to Indian Truck Trail	1	1600	1230	0.77	C	849	0.53	A
Indian Truck Trail to Temescal Canyon Rd	1	1600	1414	0.88	D	752	0.47	A
Temescal Canyon Rd to Weirick Rd	1	1600	1485	0.93	E	798	0.50	A
Weirick Rd to Cajalco Rd	1	1600	1619	1.01	F	816	0.51	A
Cajalco Rd to El Cerrito Rd	1	1600	1519	0.95	E	716	0.45	A
El Cerrito Rd to Ontario Av	1	1600	1519	0.95	E	716	0.45	A
Ontario Ave to Magnolia Av	1	1600	1311	0.82	D	620	0.39	A
Magnolia Ave to SR-91	2	3200	2569	0.80	D	1137	0.36	A

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
SR-91 to Hidden Valley Pkwy	2	3200	2259	0.71	C	1807	0.56	A
Hidden Valley Pkwy to 2 nd St	1	1600	1447	0.90	E	1710	1.07	F
2 nd St to 6 th St	1	1600	1447	0.90	E	1710	1.07	F
6 th St to Schleisman Rd	1	1600	1345	0.84	D	1707	1.07	F
Schleisman Rd to Limonite Av	1	1600	1448	0.90	E	1513	0.95	E
Limonite Ave to Cantu-Galleano Ranch Rd	1	1600	1448	0.90	E	1513	0.95	E
Cantu-Galleano Ranch Rd to SR-60	-	-	-	-	-	-	-	-
I-15 Southbound								
SR-60 to Cantu-Galleano Ranch Rd	1	1600	1762	1.10	F	1185	0.74	C
Cantu-Galleano Ranch Rd to Limonite Av	1	1600	1675	1.05	F	1416	0.89	D
Limonite Ave to Schleisman Rd	1	1600	1675	1.05	F	1416	0.89	D
Schleisman Rd to 6 th St	1	1600	1788	1.12	F	1388	0.87	D
6 th St to 2 nd St	1	1600	1935	1.21	F	1485	0.93	E
2 nd St to Hidden Valley Parkway	1	1600	1935	1.21	F	1485	0.93	E
Hidden Valley Parkway to SR-91	2	3200	1865	0.58	A	1999	0.62	B
SR-91 to Magnolia Av	2	3200	1305	0.41	A	2369	0.74	C
Magnolia Ave to Ontario Av	1	1600	553	0.35	A	1177	0.74	C
Ontario Ave to El Cerrito Rd	1	1600	1118	0.70	B	1556	0.97	E
El Cerrito Rd to Cajalco Rd	1	1600	1118	0.70	B	1556	0.97	E
Cajalco Rd to Weirick Rd	1	1600	1108	0.69	B	1536	0.96	E
Weirick Rd to Temescal Canyon Rd	1	1600	1112	0.69	B	1517	0.95	E
Temescal Canyon Rd to Indian Truck Trail	1	1600	1013	0.63	B	1421	0.89	D
Indian Truck Trail to Horsethief Canyon Rd	1	1600	1001	0.63	B	1273	0.80	C
Horsethief Canyon Rd to Lake St	1	1600	1001	0.63	B	1273	0.80	C
Lake St to Nichols Rd	1	1600	1084	0.68	B	1242	0.78	C
Nichols Rd to Central Av	1	1600	792	0.49	A	1266	0.79	C
Central Ave to Main St	1	1600	792	0.49	A	1266	0.79	C
Main St to Franklin St	1	1600	827	0.52	A	1303	0.81	D
Franklin St to Railroad Canyon Rd	1	1600	827	0.52	A	1303	0.81	D
Railroad Canyon Rd to Olive St	1	1600	827	0.52	A	1303	0.81	D
Olive St to Bundy Canyon Rd	1	1600	827	0.52	A	1303	0.81	D
Bundy Canyon Rd to Baxter Rd	1	1600	769	0.48	A	966	0.60	B
Baxter Rd to Clinton Keith Rd	1	1600	769	0.48	A	966	0.60	B
Clinton Keith Rd to California Oaks Rd	1	1600	623	0.39	A	685	0.43	A
California Oaks Rd to Murrieta Hot Springs Rd	1	1600	623	0.39	A	685	0.43	A

Table 5.2.2.1-1 - Year 2020 Intersection Peak Hour Level of Service - Build Alternative 1

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	0.77	39.0	D	0.90	38.2	D
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.33	8.3	A	0.26	9.0	A
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.29	15.2	B	0.35	16.6	B
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	0.76	34.9	C	0.75	29.5	C
5	Hamner Avenue and Limonite Avenue	Signal	1.06	65.9	E	1.02	60.2	E
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.61	4.6	A	1.06	46.3	D
7	I-15 Southbound Ramps and Limonite Avenue	Signal	1.01	38.3	D	1.04	43.7	D
8	I-15 Northbound Ramps and Limonite Avenue	Signal	0.79	17.1	B	0.93	30.7	C
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	0.9	A	N/A	8.3	A
10	Pats Ranch Road and Limonite Avenue	Signal	0.56	16.6	B	0.78	14.3	B
11	Wineville Road and Limonite Avenue	Signal	0.89	35.3	D	0.96	33.9	C
12	Hamner Avenue and Schleisman Road	Signal	1.39	165.7	F	0.98	55.0	D
13	I-15 Southbound Ramps and Schleisman Road	Signal	0.44	43.1	D	0.38	41.1	D
14	I-15 Northbound Ramps and Schleisman Road	Signal	0.29	30.2	C	0.31	23.2	C
15	Future Road (East of I-15) and Schleisman Road	Signal	0.25	30.1	C	0.22	21.8	C
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	0.92	38.1	D	0.83	29.4	C
17	I-15 Southbound Ramps and 6 th Street	Signal	0.73	20.7	C	0.86	25.9	C
18	I-15 Northbound Ramps and 6 th Street	Signal	0.56	8.7	A	0.89	22.4	C
19	Sierra Avenue and 6 th Street	Signal	0.56	22.2	C	0.64	19.1	B
20	Hamner Avenue and 2 nd Street	Signal	0.64	31.2	C	1.03	64.5	E
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.81	20.0	B	0.81	17.2	B
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.87	30.1	C	1.08	72.5	E
23	Valley View Avenue and 2 nd Street	AWSC	N/A	18.0	C	N/A	31.3	D

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
24	Hamner Avenue and Hidden Valley Parkway	Signal	0.93	50.0	D	1.46	150.7	F
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.53	13.4	B	2.00	59.6	E
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.56	4.3	A	1.03	18.5	B
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.69	8.3	A	1.34	120.0	F
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.57	14.0	B	0.82	34.2	C
29	Garland Way and Hidden Valley Parkway	Signal	0.47	15.6	B	0.61	25.1	C
30	Rimpau Avenue and Magnolia Avenue	Signal	0.68	30.2	C	1.44	173.8	F
31	El Sobrante Road and Magnolia Avenue	Signal	0.48	22.9	C	0.79	31.2	C
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	0.64	26.2	C	0.86	24.8	C
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.48	11.8	B	0.59	9.7	A
34	El Camino Avenue and Magnolia Avenue	Signal	0.58	43.7	D	0.57	31.7	C
35	Compton Avenue and Ontario Avenue	Signal	0.49	8.9	A	0.81	12.8	B
36	I-15 Southbound Ramps and Ontario Avenue	Signal	0.56	10.9	B	0.59	12.6	B
37	I-15 Northbound Ramps and Ontario Avenue	Signal	0.60	18.9	B	0.65	15.5	B
38	State Street and Ontario Avenue	2WSC	N/A	18.6	C	N/A	4.3	A
39	Crossroads Street and Foothill Parkway	Signal	0.70	13.4	B	1.06	95.0	F
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	0.87	27.2	C	1.24	144.0	F
41	I-15 Southbound Ramps and El Cerrito Road	Signal	0.94	41.9	D	1.09	58.5	E
42	I-15 Northbound Ramps and El Cerrito Road	Signal	0.76	33.0	C	0.36	13.4	B
43	Katy Way and El Cerrito Road	AWSC	N/A	33.5	D	N/A	233.6	F
44	Bedford Canyon Road and Cajalco Road	Signal	1.37	134.2	F	1.17	82.7	F
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.50	12.0	B	0.80	18.1	B
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.56	7.3	A	0.41	5.8	A
47	Grand Oaks Road and Cajalco Road	Signal	0.42	8.0	A	0.53	11.8	B

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
48	Temescal Canyon Road and Cajalco Road	Signal	0.67	34.3	C	0.79	40.6	D
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.75	55.2	E	0.59	88.9	F
50	I-15 Southbound Ramps and Weirick Road	Signal	0.66	11.6	B	0.43	25.8	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.72	14.5	B	0.36	9.6	A
52	Temescal Canyon Road and Weirick Road	Signal	0.80	32.1	C	0.68	30.4	C
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.45	27.9	C	0.40	19.9	B
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.59	16.7	B	0.44	15.1	B
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	0.40	15.5	B	0.40	17.0	B
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.32	22.4	C	0.41	18.7	B
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.33	17.8	B	0.34	13.0	B
58	I-15 Southbound Ramps and Indian Truck Trail	Signal	0.19	19.2	B	0.36	13.5	B
59	I-15 Northbound Ramps and Indian Truck Trail	Signal	0.20	7.1	A	0.19	10.5	B
60	Temescal Canyon Road and Indian Truck Trail	Signal	0.46	32.2	C	0.45	26.7	C
61	De Palma Road and Horsethief Canyon Road	1WSC	N/A	2.4	A	N/A	205.5	F
62	I-15 Southbound Ramps and Horsethief Canyon Road		Future Intersection					
63	I-15 Northbound Ramps and Horsethief Canyon Road		Future Intersection					
64	Temescal Canyon Road and Horsethief Canyon Road	1WSC	N/A	0.0	A	N/A	2.4	A
65	Temescal Canyon Road and Lake Street	Signal	0.90	29.7	C	1.04	88.4	F
66	I-15 Southbound Ramps and Lake Street	Signal	0.96	31.0	C	0.84	36.8	D
67	I-15 Northbound Ramps and Lake Street	Signal	0.60	13.8	B	0.56	21.1	C
68	Walker Canyon Road and Lake Street	2WSC	N/A	1.6	A	N/A	3.9	A
69	Collier Avenue and Nichols Road	1WSC	N/A	7.0	A	N/A	9.1	A
70	I-15 Southbound Ramps and Nichols Road	AWSC	N/A	10.4	B	N/A	15.9	C
71	I-15 Northbound Ramps and Nichols Road	AWSC	N/A	13.0	B	N/A	15.6	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.95	49.2	D	0.73	32.5	C
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	0.63	16.9	B	0.76	17.4	B
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.58	7.7	A	0.64	10.6	B
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.63	20.3	C	0.63	20.5	C
76	Flint Street and Main Street	2WSC	N/A	5.8	A	N/A	11.7	B
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	5.5	A	N/A	9.0	A
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	8.9	A	N/A	6.0	A
79	Camino Del Norte and Main Street	1WSC	N/A	5.1	A	N/A	10.4	B
80	Auto Center Drive and Franklin Street	Signal	0.52	22.9	C	0.38	11.4	B
81	I-15 Southbound Ramps and Franklin Street	Signal	0.27	15.7	B	0.33	17.2	B
82	I-15 Northbound Ramps and Franklin Street	Signal	0.29	14.4	B	0.21	13.2	B
83	Canyon Estates Drive and Franklin Street	Signal	0.56	20.8	C	0.66	37.6	D
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	0.50	22.2	C	1.04	73.4	E
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.16	18.2	B	0.25	28.9	C
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.31	5.5	A	0.36	12.5	B
87	Summerhill Drive and Railroad Canyon Road	Signal	0.57	32.3	C	1.06	56.0	E
88	Mission Trail and Olive Street	Signal	0.80	18.0	B	0.83	20.2	C
89	I-15 Southbound Ramps and Olive Street	Signal	0.67	15.8	B	0.51	11.9	B
90	I-15 Northbound Ramps and Olive Street	Signal	0.52	10.1	B	0.58	15.8	B
91	Grape Street and Olive Street	Signal	0.95	21.8	C	1.07	39.2	D
92	Orange Street and Bundy Canyon Road	Signal	0.56	17.9	B	0.43	16.9	B
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.56	14.6	B	0.66	17.0	B
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.54	14.5	B	0.54	15.5	B
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	3.0	A	N/A	11.9	B

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
96	Central Street and Baxter Road	Signal	0.49	14.3	B	0.66	15.5	B
97	I-15 Southbound Ramps and Baxter Road	Signal	0.44	13.4	B	0.56	16.6	B
98	I-15 Northbound Ramps and Baxter Road	Signal	0.52	27.2	C	0.61	24.0	C
99	Monte Vista Drive and Baxter Road	1WSC	N/A	8.7	A	N/A	6.9	A
100	Hidden Springs Road and Clinton Keith Road	Signal	0.59	18.8	B	0.68	23.1	C
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.59	19.5	B	0.63	17.0	B
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.62	11.4	B	0.54	15.6	B
103	Arya Drive and Clinton Keith Road	Signal	0.75	16.8	B	0.90	27.4	C
104	I-15 Southbound Ramp / Madison Avenue and Kalmia Street	Signal	0.49	28.6	C	0.74	30.6	C
105	I-15 Southbound Ramps and Kalmia Street	No conflicting movements						
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.40	13.3	B	0.58	13.9	B
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.41	14.0	B	0.60	17.7	B
108	Monroe Avenue and California Oaks Road	Signal	0.41	18.5	B	0.53	24.8	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.38	29.4	C	0.80	45.1	D
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.49	16.9	B	0.63	17.6	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.44	5.0	A	0.57	6.1	A
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	4.3	A	N/A	16.3	C
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.50	19.2	B	0.64	20.8	C

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control 2WSC - Two-Way Stop Control AWSC - All-Way Stop Control

5.2.2.2 Queuing Analysis

A queuing analysis using the previously described methodologies was conducted to determine the queue lengths at the freeway ramp intersections under year 2020 Build Alternative 1 conditions. The results of the queuing analysis are summarized in **Table 5.2.2.2-1**. As can be seen from **Table 5.2.2.2-1**, the 95th percentile queue lengths of several turning movements are

Table 5.3.1.1-1 - Year 2020 Freeway Mainline Peak Hour Level of Service - Build Alternative 2

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge to Murrieta Hot Springs Rd Off-Ramp/HOV Ingress	3	66.5	15.9	B	65.2	27.5	D
Murrieta Hot Springs Rd Off-Ramp/HOV Ingress to Murrieta Hot Springs Rd EB On-Ramp	3	66.5	14.5	B	66.1	24.9	C
Murrieta Hot Springs Rd EB On-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.5	17.3	B	65.4	27.0	D
Murrieta Hot Springs Rd WB On-Ramp to California Oaks Rd Off-Ramp	4	68.0	15.2	B	67.4	24.6	C
California Oaks Rd Off-Ramp to California Oaks Rd EB On-Ramp	3	66.5	16.9	B	65.0	27.9	D
California Oaks Rd EB On-Ramp to California Oaks Rd WB On-Ramp	3	66.5	18.0	B	63.7	30.2	D
California Oaks Rd WB On-Ramp to HOV Access	4	68.0	14.2	B	67.8	22.8	C
HOV Access to Clinton Keith Rd Off-Ramp	4	68.0	13.3	B	67.4	22.6	C
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.5	14.9	B	65.6	26.4	D
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	4	68.0	15.0	B	67.8	22.6	C
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	4	68.0	14.5	B	68.0	20.8	C
Baxters Rd On-Ramp to Bundy Canyon Rd Off-Ramp	4	68.0	14.4	B	67.9	21.5	C
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.5	17.7	B	65.8	25.8	C
Bundy Canyon Rd On-Ramp to Olive St Off-Ramp	3	66.5	19.8	C	64.8	28.2	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.5	18.9	C	66.0	25.2	C
Olive St On-Ramp to Railroad Canyon Rd Off-Ramp	3	66.5	22.3	C	64.8	28.2	D
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.5	21.1	C	66.0	25.2	C
Railroad Canyon Rd On-Ramp to Franklin St Off-Ramp	3	66.0	25.3	C	64.4	29.0	D
Franklin St Off-Ramp to Franklin St On-Ramp	3	66.1	24.7	C	64.9	28.1	D
Franklin St On-Ramp to Main St Off-Ramp	3	64.6	28.7	D	64.1	29.5	D
Main St Off-Ramp to Main St On-Ramp/HOV Egress (End)	3	65.6	25.6	D	65.4	26.9	D
Main St On-Ramp/HOV Egress (End) to SR-74 Off-Ramp/HOT Ingress (Begin)	5	69.5	16.9	B	69.5	15.6	B
SR-74 Off-Ramp/HOT Ingress (Begin) to SR-74 EB On-Ramp	4	68.0	19.1	C	68.0	15.3	B

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-74 EB On-Ramp to SR-74 WB On-Ramp	4	68.0	21.0	C	68.0	16.6	B
SR-74 WB On-Ramp to Nichols Rd Off-Ramp/HOT Ingress	4	68.5	20.9	C	68.5	16.9	B
Nichols Rd Off-Ramp/HOT Ingress to Nichols Rd On-Ramp	4	68.5	20.6	C	68.5	16.2	B
Nichols Rd On-Ramp to Lake St Off-Ramp	4	68.4	21.3	C	68.5	17.4	B
Lake St Off-Ramp to Lake St On-Ramp	4	68.5	20.8	C	68.5	15.4	B
Lake St On-Ramp to Indian Truck Trail Off-Ramp	4	68.0	23.9	C	68.5	16.8	B
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	68.2	23.0	C	68.5	16.4	B
Indian Truck Trail On-Ramp to Temescal Canyon Rd Off-Ramp/HOT Ingress	4	67.3	25.7	C	68.5	17.8	B
Temescal Canyon Rd Off-Ramp/HOT Ingress to Temescal Canyon Rd On-Ramp	4	67.8	24.4	C	68.5	17.0	B
Temescal Canyon Rd On-Ramp to HOT Egress	4	67.9	24.3	C	68.5	18.5	C
HOT Egress to Weirick Rd Off-Ramp	4	67.7	24.9	C	68.5	18.7	C
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	4	68.0	23.8	C	68.5	18.3	C
Weirick Rd On-Ramp to Cajalco Rd Off-Ramp	4	66.7	27.0	D	68.5	20.5	C
Cajalco Rd Off-Ramp to Cajalco Rd EB On-Ramp	4	63.0	27.6	D	63.5	20.8	C
Cajalco Rd EB On-Ramp to Cajalco Rd WB On-Ramp	4	61.2	31.7	D	63.5	23.1	C
Cajalco Rd WB On-Ramp to El Cerrito Rd Off-Ramp	6	63.7	22.5	C	63.7	16.3	B
HOT Ingress to El Cerrito Rd On-Ramp	5	63.7	24.5	C	63.7	18.3	C
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	See Weaving Analysis					
Ontario Ave Off-Ramp to Ontario Ave On-Ramp/HOT Egress	5	63.5	26.3	D	63.7	18.0	B
Ontario Ave On-Ramp/HOT Egress to Magnolia Ave Off-Ramp	7	63.7	22.2	C	63.7	15.9	B
Magnolia Ave Off-Ramp to Lane Deletion	6	63.7	23.6	C	63.7	17.1	B
Lane Deletion to Magnolia Ave EB On-Ramp	5	62.8	28.7	D	63.7	20.5	C
Magnolia Ave EB On-Ramp to Magnolia Ave WB On-Ramp	6	63.6	25.6	C	63.7	20.2	C
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	5	See Weaving Analysis					

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-91 Off-Ramp to Lane Deletion	5	63.7	16.7	B	63.7	13.2	B
Lane Deletion to SR-91 WB On-Ramp	4	62.2	21.3	C	62.2	17.0	B
SR-91 WB On-Ramp to SR-91 EB On-Ramp	5	63.7	21.6	C	63.7	18.4	C
SR-91 EB On-Ramp to Hidden Valley Pkwy Off-Ramp	5	64.0	25.8	C	64.2	21.0	C
Hidden Valley Pkwy Off-Ramp to HOT Egress	4	61.1	31.1	D	62.7	23.7	C
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	See Weaving Analysis					
2 nd St Off-Ramp to Lane Deletion	5	64.2	22.7	C	64.2	22.4	C
2 nd St On-Ramp to Lane Addition	5	64.2	21.5	C	64.2	23.0	C
6 th St Off-Ramp to 6 th St On-Ramp	4	62.7	25.1	C	62.6	26.3	D
6 th St On-Ramp to Schleisman Rd Off-Ramp	4	62.5	27.1	D	61.5	30.2	D
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	4	62.7	25.2	C	62.6	26.8	D
Schleisman Rd On-Ramp to Limonite Ave Off-Ramp	4	62.3	28.0	D	62.2	28.5	D
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	62.7	25.8	C	62.7	23.8	C
Limonite Ave On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	4	59.8	33.6	D	62.5	27.3	D
Cantu-Galleano Ranch Rd Off-Ramp to HOT Egress	4	61.0	31.4	D	62.7	25.3	C
HOT Egress to Cantu-Galleano Ranch Rd On-Ramp	5	64.1	25.0	C	64.2	20.3	C
Cantu-Galleano Ranch Rd On-Ramp to SR-60 EB Off-Ramp/HOT Egress (End)	5	63.9	26.6	D	64.2	22.7	C
SR-60 EB Off-Ramp/HOT Egress to Lane Deletion	5	63.7	27.0	D	64.2	24.7	C
Lane Deletion to SR-60 WB Off-Ramp	4	56.9	37.9	E	60.2	32.9	D
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	-	>45	F	54.3	40.9	E
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	56.2	38.8	E	60.2	32.8	D
North of SR-60 EB On-Ramp	5	58.8	35.9	E	58.6	36.2	E
I-15 Southbound							
North of SR-60 Off-Ramp	4	-	>45	F	-	>45	F

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-60 Off-Ramp to HOT Ingress	3	-	>45	F	51.6	44.6	E
HOT Ingress to SR-60 EB On-Ramp	3	59.5	32.7	D	59.6	32.5	D
SR-60 EB On-Ramp to SR-60 WB On-Ramp	4	62.4	27.5	D	61.6	30.1	D
SR-60 WB On-Ramp to Lane Addition	5	64.2	24.0	C	63.8	27.0	D
Lane Addition to Cantu-Galleano Ranch Rd Off-Ramp	6	64.2	20.0	C	64.2	22.3	C
Cantu-Galleano Ranch Rd Off-Ramp to HOT Ingress	5	64.2	22.3	C	64.1	25.2	C
HOT Ingress to Cantu-Galleano Ranch Rd WB On-Ramp	4	62.6	26.2	D	61.3	30.8	D
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	5	64.2	21.7	C	64.2	24.8	C
Cantu-Galleano Ranch Rd EB On-Ramp to Lane Deletion	5	64.2	23.1	C	63.9	26.3	D
Lane Deletion to Limonite Ave Off-Ramp	4	61.6	30.0	D	58.0	36.3	E
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	62.6	26.7	D	62.2	28.4	D
Limonite Ave On-Ramp to Schleisman Rd Off-Ramp	4	60.8	31.8	D	60.5	32.3	D
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	4	61.6	30.1	D	61.5	30.2	D
Schleisman Rd On-Ramp to 6 th St Off-Ramp	4	58.3	35.8	E	60.1	33.0	D
6 th St Off-Ramp to 6 th St On-Ramp/HOT Egress	4	60.8	31.7	D	61.9	29.5	D
6 th St On-Ramp/HOT Egress to 2 nd St Off-Ramp	5	63.5	27.9	D	63.7	27.1	D
2 nd St Off-Ramp to 2 nd St On-Ramp	4	58.3	35.8	E	58.7	35.2	E
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp	4	See Weaving Analysis					
Hidden Valley Pkwy Off-Ramp to HOT Ingress	4	59.1	34.6	E	58.0	36.2	E
HOT Ingress to Hidden Valley Pkwy On-Ramp	4	61.4	30.5	D	60.6	32.1	D
Hidden Valley Pkwy On-Ramp to SR-91WB Off-Ramp	5	64.2	24.8	C	63.9	26.3	D
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	4	62.7	20.2	C	62.7	24.1	C
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	4	62.7	13.1	B	62.7	18.9	C
SR-91 EB On-Ramp to SR-91 WB On-Ramp	5	64.2	16.4	B	63.7	24.2	C

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weaving Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp	5	63.7	16.2	B	63.7	24.3	C
Magnolia Ave On-Ramp to Ontario Ave Off-Ramp/HOT Ingress	6	63.7	14.8	B	63.7	23.3	C
Ontario Ave Off-Ramp/HOT Ingress to Ontario Ave On-Ramp	5	63.7	13.3	B	63.7	13.3	B
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp/HOT Egress	5	See Weaving Analysis					
El Cerrito Rd Off-Ramp/HOT Egress to El Cerrito Rd On-Ramp	6	63.7	11.8	B	63.7	20.3	C
El Cerrito Rd On-Ramp to Cajalco Rd Off-Ramp	5	See Weaving Analysis					
Cajalco Rd Off-Ramp to Cajalco Rd Loop On-Ramp	5	63.7	14.1	B	63.6	25.3	C
Cajalco Rd Loop On-Ramp to Weirick Rd Off-Ramp	5	70.0	13.4	B	68.7	24.9	C
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	4	68.5	15.7	B	64.5	30.4	D
HOT Ingress to Temescal Canyon Rd Off-Ramp	4	68.5	15.3	B	64.8	30.1	D
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	4	68.5	13.7	B	66.6	27.1	D
Temescal Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	4	68.5	14.3	B	65.6	28.8	D
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	68.5	13.4	B	67.5	25.2	C
Indian Truck Trail On-Ramp to Lake St Off-Ramp	4	68.5	14.1	B	67.4	25.6	C
Lake St Off-Ramp to Lake St On-Ramp	4	68.5	12.9	B	68.3	22.7	C
Lake St On-Ramp to Nichols Rd Off-Ramp	4	68.5	15.9	B	68.0	23.7	C
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	4	68.5	15.0	B	68.3	22.3	C
Nichols Rd On-Ramp to HOT Egress	4	68.5	15.2	B	68.2	23.0	C
HOT Egress to SR-74 Off-Ramp	5	70.0	12.2	B	70.0	19.3	C
SR-74 Off-Ramp to SR-74 On-Ramp/HOT Egress (End)	5	70.0	10.6	A	70.0	16.9	B
SR-74 On-Ramp/HOT Egress (End) to Main St Off-Ramp/HOV Ingress	5	69.5	14.1	B	69.4	20.7	C
Main St Off-Ramp/HOV Ingress to Main St On-Ramp	3	66.3	24.0	C	58.5	37.3	E
Main St On-Ramp to Franklin St Off-Ramp	4	68.0	18.4	C	67.0	25.6	C

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Franklin St Off-Ramp to Franklin St On-Ramp	3	66.3	23.6	C	59.9	35.4	E
Franklin St On-Ramp to Railroad Canyon Rd Off-Ramp	4	68.0	18.4	C	67.5	24.2	C
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	66.4	23.5	C	64.8	28.3	D
Railroad Canyon Rd On-Ramp to Olive St Off-Ramp	3	66.0	25.4	C	62.6	31.8	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.4	22.7	C	65.3	27.3	D
Olive St On-Ramp to Bundy Canyon Rd Off-Ramp	3	66.3	23.9	C	65.0	27.9	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.5	22.1	C	66.1	24.8	C
Bundy Canyon Rd On-Ramp to Baxter Rd Off-Ramp	3	65.7	26.2	D	64.7	28.5	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	65.9	25.7	C	65.4	26.9	D
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	4	68.0	20.2	C	68.0	20.8	C
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.4	23.2	C	66.4	23.1	C
Clinton Keith Rd On-Ramp to HOV Access	3	64.6	28.6	D	65.5	26.8	D
HOV Access to California Oaks Rd Off-Ramp	3	64.5	28.8	D	65.1	27.7	D
California Oaks Rd Off-Ramp to California Oaks Rd WB On-Ramp	3	66.0	25.3	C	66.3	23.7	C
California Oaks Rd WB On-Ramp to California Oaks Rd EB On-Ramp	3	65.1	27.6	D	65.7	26.1	D
California Oaks Rd EB On-Ramp to Murrieta Hot Springs Rd Off-Ramp	4	68.0	21.1	C	68.0	20.4	C
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.4	23.1	C	66.5	20.9	C
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp/HOV Egress (End)	3	66.3	23.7	C	66.5	21.1	C
Murrieta Hot Springs Rd EB On-Ramp/HOV Egress to I-215 On-Ramp	3	66.1	24.9	C	66.4	22.6	C

5.3.1.2 Ramp Level of Service

Year 2020 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 5.3.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Year 2020 Build Alternative 2 freeway ramp levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.3.1.1-1a, 5.3.1.1-1b, 5.3.1.1-1c, and 5.3.1.1-1d**. As **Table 5.3.1.2-1** indicates, all freeway ramp junctions are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ♦ Franklin Street Off-Ramp (a.m. and p.m. peak hours).

I-15 Southbound

- ♦ SR-60 Off-Ramp (a.m. and p.m. peak hours);
- ♦ Olive Street Off-Ramp (p.m. peak hour).

Table 5.3.1.2-1 - Year 2020 Freeway Ramp Peak Hour Level of Service - Build Alternative 2

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp/HOV Ingress	1	57.3	22.0	C	56.9	32.5	D
Murrieta Hot Springs Rd EB On-Ramp	1	61.1	19.2	B	59.2	27.3	C
Murrieta Hot Springs Rd WB On-Ramp	1	Lane Addition					
California Oaks Rd Off-Ramp	1	Lane Deletion					
California Oaks Rd EB On-Ramp	1	61.2	19.0	B	58.3	29.4	D
California Oaks Rd WB On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	5.7	A	-	8.3	A
Clinton Keith Rd On-Ramp	1	Lane Addition					
Baxter Rd Off-Ramp	1	57.7	18.9	B	56.8	28.3	D
Baxter Rd On-Ramp	1	61.6	14.7	B	60.9	20.7	C
Bundy Canyon Rd Off-Ramp (Major Diverge)	2	-	3.4	A	-	6.5	A
Bundy Canyon Rd On-Ramp	1	60.8	21.2	C	58.9	28.2	D
Olive St Off-Ramp	1	57.6	25.7	C	56.8	33.0	D
Olive St On-Ramp	1	60.4	23.4	C	58.7	28.5	D
Railroad Canyon Rd Off-Ramp	1	57.4	16.5	B	56.7	20.8	C
Railroad Canyon Rd On-Ramp	1	60.6	22.3	C	59.5	24.7	C
Franklin St Off-Ramp	1	57.7	35.3	E	57.7	35.5	E
Franklin St On-Ramp	1	58.3	29.3	D	58.7	28.6	D
Main St Off-Ramp	1	57.2	34.4	D	57.0	33.6	D
Main St On-Ramp/HOV Egress (End) (Major Merge)	2	-	-	B	-	-	B
SR-74 Off-Ramp/HOT Ingress (Begin) (Major Diverge)	2	-	5.9	A	-	11.1	B
SR-74 EB On-Ramp	1	60.7	21.7	C	61.4	17.3	B
SR-74 WB On-Ramp	1	60.5	23.0	C	61.3	18.0	B
Nichols Rd Off-Ramp/HOT Ingress	1	57.8	24.8	C	57.6	21.2	C
Nichols Rd On-Ramp	1	60.9	20.8	C	61.3	17.9	B
Lake St Off-Ramp	1	57.6	25.6	C	56.7	23.5	C
Lake St On-Ramp	1	59.8	25.3	C	61.3	17.6	B
Indian Truck Trail Off-Ramp	1	57.5	28.3	D	57.8	20.7	C

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Indian Truck Trail On-Ramp (Major Merge)	2	-	-	C	-	-	B
Temescal Canyon Rd Off-Ramp/HOT Ingress	1	57.3	30.3	D	57.4	22.3	C
Temescal Canyon Rd On-Ramp (Major Merge)	2	-	-	C	-	-	C
Weirick Rd Off-Ramp	2	57.4	15.7	B	57.8	10.1	B
Weirick Rd On-Ramp	1	59.1	27.4	C	60.7	21.8	C
Cajalco Rd Off-Ramp	1	54.6	31.3	D	54.5	25.7	C
Cajalco Rd EB On-Ramp	1	55.3	29.4	D	57.2	22.6	C
Cajalco Rd WB On-Ramp	2	Lane Addition					
El Cerrito Rd Off-Ramp	1	Lane Deletion					
El Cerrito Rd On-Ramp	See Weave Analysis						
Ontario Ave Off-Ramp	See Weave Analysis						
Ontario Ave On-Ramp/HOT Egress	1	Lane Addition					
Magnolia Ave Off-Ramp (Major Diverge)	2	-	7.8	A	-	5.0	A
Magnolia Ave EB On-Ramp	1	Lane Addition					
Magnolia Ave WB On-Ramp	See Weave Analysis						
SR-91 Off-Ramp	See Weave Analysis						
SR-91 WB On-Ramp	1	55.0	29.8	D	56.1	27.0	C
SR-91 EB On-Ramp (Major Merge)	2	-	-	C	-	-	C
Hidden Valley Pkwy Off-Ramp	1	Lane Deletion					
Hidden Valley Pkwy On-Ramp	See Weave Analysis						
2 nd St Off-Ramp	See Weave Analysis						
2 nd St On-Ramp	1	Lane Addition					
6 th St Off-Ramp (Major Diverge)	2	-	5.1	A	-	7.0	A
6 th St On-Ramp	1	56.8	24.9	C	55.7	28.5	D
Schleisman Rd Off-Ramp	1	54.2	30.6	D	53.6	34.5	D
Schleisman Rd On-Ramp	1	56.4	26.2	C	56.6	25.5	C
Limonite Ave Off-Ramp	2	54.1	16.5	B	52.8	17.0	B
Limonite Ave On-Ramp	1	53.5	30.8	D	56.9	24.1	C
Cantu-Galleano Ranch Rd Off-Ramp	1	54.4	34.9	D	54.1	31.0	D
Cantu-Galleano Ranch Rd On-Ramp	1	57.8	20.6	C	57.9	19.7	B
SR-60 EB Off-Ramp/HOT Egress (End)	1	52.0	35.7	E	53.3	29.2	D
SR-60 WB Off-Ramp	1	Lane Deletion					
SR-60 WB On-Ramp (Major Merge)	2	-	-	E	-	-	D
SR-60 EB On-Ramp (Major Merge)	2	-	-	E	-	-	E
I-15 Southbound							
SR-60 Off-Ramp	2	45.9	44.6	F	47.3	38.8	F
SR-60 EB On-Ramp	1	Lane Addition					
SR-60 WB On-Ramp	1	Lane Addition					
Cantu-Galleano Ranch Rd Off-Ramp	1	Lane Deletion					
Cantu-Galleano Ranch Rd WB On-Ramp	1	Lane Addition					
Cantu-Galleano Ranch Rd EB On-Ramp	1	57.4	21.7	C	57.0	24.0	C

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Limonite Ave Off-Ramp	2	53.6	18.0	B	52.4	21.5	C
Limonite Ave On-Ramp	1	55.5	27.8	C	56.0	26.8	C
Schleisman Rd Off-Ramp	1	54.5	33.6	D	54.4	34.1	D
Schleisman Rd On-Ramp	1	54.1	31.7	D	55.7	28.6	D
6 th St Off-Ramp	2	53.8	21.3	C	53.8	19.9	B
6 th St On-Ramp/HOT Egress	1	Lane Addition					
2 nd St Off-Ramp (Major Diverge)	2	-	4.3	A	-	3.3	A
2 nd St On-Ramp	See Weave Analysis						
Hidden Valley Pkwy Off-Ramp	See Weave Analysis						
Hidden Valley Pkwy On-Ramp	1	Lane Addition					
SR-91 WB Off-Ramp (Major Diverge)	2	-	25.3	B	-	20.5	C
SR-91 EB Off-Ramp	1	51.5	30.6	D	52.5	32.0	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	B	-	-	C
SR-91 WB On-Ramp	See Weave Analysis						
Magnolia Ave Off-Ramp	See Weave Analysis						
Magnolia Ave On-Ramp	1	Lane Addition					
Ontario Ave Off-Ramp/HOT Ingress	1	Lane Deletion					
Ontario Ave On-Ramp	See Weave Analysis						
El Cerrito Rd Off-Ramp	See Weave Analysis						
El Cerrito Rd On-Ramp	See Weave Analysis						
Cajalco Rd Off-Ramp	See Weave Analysis						
Cajalco Rd Loop On-Ramp	1	58.1	14.0	B	57.1	23.4	C
Weirick Rd Off-Ramp (Major Diverge)	2	-	3.4	A	-	6.2	A
Weirick Rd On-Ramp	1	61.5	15.5	B	59.3	27.3	C
Temescal Canyon Rd Off-Ramp	1	56.9	20.8	C	56.6	34.9	D
Temescal Canyon Rd On-Ramp	1	61.6	14.5	B	59.5	26.7	C
Indian Truck Trail Off-Ramp	2	57.5	6.0	A	56.1	18.5	B
Indian Truck Trail On-Ramp	1	61.6	14.5	B	60.4	23.7	C
Lake St Off-Ramp	1	57.2	19.0	B	56.2	32.4	D
Lake St On-Ramp	1	61.2	18.7	B	60.5	22.9	C
Nichols Rd Off-Ramp	1	57.4	20.6	C	57.1	28.8	D
Nichols Rd On-Ramp	1	61.6	15.0	B	60.7	22.0	C
SR-74 Off-Ramp	2	56.6	3.7	A	55.9	9.1	A
SR-74 On-Ramp/HOT Egress (End)	1	63.0	12.2	B	62.1	17.9	B
Main St Off-Ramp/HOV Ingress (Major Diverge)	2	-	1.2	A	-	5.7	A
Main St On-Ramp	1	Lane Addition					
Franklin St Off-Ramp	1	Lane Deletion					
Franklin St On-Ramp	1	61.2	18.6	B	60.5	22.8	C
Railroad Canyon Rd Off-Ramp (Major Diverge)	2	-	2.7	A	-	9.1	A
Railroad Canyon Rd On-Ramp	1	59.7	26.0	C	57.6	30.7	D
Olive St Off-Ramp	1	56.8	31.1	D	56.4	35.1	E

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Olive St On-Ramp	1	60.2	24.4	C	59.3	27.2	C
Bundy Canyon Rd Off-Ramp	2	57.2	15.9	B	56.7	19.3	B
Bundy Canyon Rd On-Ramp	1	59.0	27.7	C	58.5	28.9	D
Baxter Rd Off-Ramp	1	57.8	31.4	D	57.4	32.8	D
Baxter Rd On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	7.8	A	-	9.3	A
Clinton Keith Rd On-Ramp	1	57.9	29.9	D	58.9	28.0	C
California Oaks Rd Off-Ramp	2	56.6	19.9	B	56.3	19.1	B
California Oaks Rd WB On-Ramp	1	59.1	27.7	C	59.4	26.7	C
California Oaks Rd EB On-Ramp	1	Lane Addition					
Murrieta Hot Springs Rd Off-Ramp (Major Diverge)	2	-	10.0	B	-	12.1	B
Murrieta Hot Springs Rd WB On-Ramp	1	60.3	23.8	C	60.8	21.4	C
Murrieta Hot Springs Rd EB On-Ramp/HOV Egress (End)	1	59.9	25.2	C	60.4	23.4	C

5.3.1.3 Weaving Level of Service

Year 2020 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 5.3.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. As **Table 5.3.1.3-1** indicates, all freeway weaving segments are projected to operate at satisfactory levels of service, with the following exception:

I-15 Northbound

- ◆ Magnolia Avenue WB On-Ramp to SR-91 Off-Ramp (a.m. peak hour).

Year 2020 Build Alternative 2 freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.3.1.1-1a, 5.3.1.1-1b, 5.3.1.1-1c, and 5.3.1.1-1d**. A separate weaving analysis has been performed for weaving segments within the tolled express lanes between the ingress and egress locations, the results of which are presented later in this chapter.

Table 5.3.1.3-1 - Year 2020 Freeway Weaving Segment Peak Hour Level of Service - Build Alternative 2

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	54.4	33.9	D	61.7	20.2	C
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	5	44.4	52.6	F	46.3	39.1	E
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	56.1	30.0	D	52.7	30.4	D
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp	4	57.0	36.4	E	58.1	35.9	E
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	52.5	29.2	D	52.2	41.0	E

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp/HOT Egress	5	64.0	14.9	B	57.5	30.4	D
El Cerrito Rd On-Ramp to Cajalco Rd Off-Ramp	5	62.6	16.5	B	59.5	30.0	D

5.3.1.4 HOV/Tolled Express Lane Segment Level of Service

Year 2020 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area freeway HOV and tolled express lane segments are summarized in **Table 5.3.1.4-1** and **Table 5.3.1.4-2**, respectively. The tolled express lane segment LOS calculation sheets are contained in **Appendix M**. As **Table 5.3.1.4-1** and **Table 5.3.1.4-2** indicate, all HOV/tolled express lane freeway segments in the study area are projected to operate at satisfactory levels of service during both the a.m. and p.m. peak hours.

Table 5.3.1.4-1 - Year 2020 HOV Segment Peak Hour Level of Service - Build Alternative 2

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
I-15 Northbound								
Murrieta Hot Springs Rd to California Oaks Rd	1	1600	560	0.35	A	444	0.28	A
California Oaks Road to Clinton Keith Rd	1	1600	793	0.50	A	480	0.30	A
Clinton Keith Rd to Baxter Rd	1	1600	793	0.50	A	480	0.30	A
Baxter Rd to Bundy Canyon Rd	1	1600	1009	0.63	B	483	0.30	A
Bundy Canyon Rd to Olive St	1	1600	1009	0.63	B	483	0.30	A
Olive St to Railroad Canyon Rd	1	1600	1009	0.63	B	483	0.30	A
Railroad Canyon Rd to Franklin St	1	1600	1009	0.63	B	483	0.30	A
Franklin St to Main St	1	1600	1009	0.63	B	483	0.30	A
Main St to Central Av	-	-	-	-	-	-	-	-
I-15 Southbound								
Central Ave to Main St	1	1600	491	0.31	A	860	0.54	A
Main St to Franklin St	1	1600	491	0.31	A	860	0.54	A
Franklin St to Railroad Canyon Rd	1	1600	491	0.31	A	860	0.54	A
Railroad Canyon Rd to Olive St	1	1600	491	0.31	A	860	0.54	A
Olive St to Bundy Canyon Rd	1	1600	491	0.31	A	860	0.54	A
Bundy Canyon Rd to Baxter Rd	1	1600	501	0.31	A	807	0.50	A
Baxter Rd to Clinton Keith Rd	1	1600	501	0.31	A	807	0.50	A
Clinton Keith Rd to California Oaks Rd	1	1600	470	0.29	A	674	0.42	A
California Oaks Rd to Murrieta Hot Springs Rd	1	1600	470	0.29	A	674	0.42	A

Table 5.3.1.4-2 - Year 2020 Tolloed Express Lane Segment Peak Hour Level of Service - Build Alternative 2

Segment	# of Lanes	AM Peak Hour				PM Peak Hour			
		Volume	Speed	Density	LOS	Volume	Speed	Density	LOS
I-15 Northbound									
Central Ave to Nichols Rd	2	970	60.5	8.2	A	686	60.5	5.8	A
Nichols Rd to Lake St	2	970	60.5	8.2	A	686	60.5	5.8	A
Lake St to Horsethief Canyon Rd	2	970	60.5	8.2	A	686	60.5	5.8	A
Horsethief Canyon Rd to Indian Truck Tr	2	970	60.5	8.2	A	686	60.5	5.8	A
Indian Truck Trail to Temescal Canyon Rd	2	970	62.0	5.3	A	686	60.5	5.8	A
Temescal Canyon Rd to Weirick Rd	2	1559	60.5	13.1	B	827	60.5	7.0	A
Weirick Rd to Cajalco Rd	2	1421	60.5	12.0	B	792	60.5	6.7	A
Cajalco Rd to El Cerrito Rd	2	1421	60.5	12.0	B	792	60.5	6.7	A
El Cerrito Rd to Ontario Av	3	1968	62.0	10.8	A	975	62.0	5.4	A
Ontario Ave to Magnolia Av	2	1566	60.5	13.2	B	834	60.5	7.0	A
Magnolia Ave to SR-91	2	1566	60.5	13.2	B	834	60.5	7.0	A
SR-91 to Hidden Valley Pkwy	2	1473	60.5	12.4	B	1569	60.5	13.2	B
Hidden Valley Pkwy to 2 nd St	2	1207	60.5	10.2	A	1053	60.5	8.9	A
2 nd St to 6 th St	2	1946	60.5	16.4	B	1683	60.5	14.2	B
6 th St to Schleisman Rd	2	1946	60.5	16.4	B	1683	60.5	14.2	B
Schleisman Rd to Limonite Av	2	1946	60.5	16.4	B	1683	60.5	14.2	B
Limonite Ave to Cantu-Galleano Ranch Rd	2	1946	60.5	16.4	B	1683	60.5	14.2	B
I-15 Southbound									
Cantu-Galleano Ranch Rd to Limonite Av	2	1651	60.5	13.9	B	1620	60.5	13.7	B
Limonite Ave to Schleisman Rd	2	1651	60.5	13.9	B	1620	60.5	13.7	B
Schleisman Rd to 6 th St	2	1651	60.5	13.9	B	1620	60.5	13.7	B
6 th St to 2 nd St	2	1651	60.5	13.9	B	1620	60.5	13.7	B
2 nd St to Hidden Valley Parkway	2	1035	60.5	8.7	A	812	60.5	6.8	A
Hidden Valley Parkway to SR-91	2	1704	60.5	14.4	B	1418	60.5	12.0	B
SR-91 to Magnolia Av	2	888	60.5	7.5	A	1511	60.5	12.7	B
Magnolia Ave to Ontario Av	2	888	60.5	7.5	A	1511	60.5	12.7	B
Ontario Ave to El Cerrito Rd	3	1051	62.0	5.8	A	1878	62.0	10.3	A
El Cerrito Rd to Cajalco Rd	2	657	60.5	5.5	A	1326	60.5	11.2	B
Cajalco Rd to Weirick Rd	2	657	60.5	5.5	A	1326	60.5	11.2	B
Weirick Rd to Temescal Canyon Rd	2	799	60.5	6.7	A	1528	60.5	12.9	B
Temescal Canyon Rd to Indian Truck Tr	2	799	60.5	6.7	A	1528	60.5	12.9	B
Indian Truck Trail to Horsethief Canyon Rd	2	799	60.5	6.7	A	1528	60.5	12.9	B
Horsethief Canyon Rd to Lake St	2	799	60.5	6.7	A	1528	60.5	12.9	B
Lake St to Nichols Rd	2	799	60.5	6.7	A	1528	60.5	12.9	B
Nichols Rd to Central Av	2	799	60.5	6.7	A	1528	60.5	12.9	B

5.3.1.6 Weaving Analysis – Tolloed Express Lane Segments

Within the tolled express lanes, there are three segments where an ingress point is followed by an egress point, potentially creating a weaving segment. However, only one of these segments has ingress and egress locations that are less than 2500 feet apart creating a weaving segment. The weaving analysis of this segment has been performed using similar methodologies as for the mainline segments. Year 2020 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area tolled express lane weaving segment are summarized in **Table 5.3.1.6-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. As **Table 5.3.1.6-1** indicates, the weaving segment is projected to operate at satisfactory levels of service.

Table 5.3.1.6-1 - Year Tolled Express Lane Weaving Analysis - Build Alternative 2

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
North of Temescal Canyon Rd Off-Ramp to North of Temescal Canyon Rd On-Ramp	3	63.8	8.3	A	72.1	3.9	A

5.3.2 Intersection Performance Analysis

5.3.2.1 Intersection Level of Service

Year 2020 Build Alternative 2 a.m. and p.m. peak hour traffic volumes at the study intersections are illustrated in previously referenced **Figures 4.4.1-3a, 4.4.1-3b, 4.4.1-3c, and 4.4.1-3d**. The intersection geometrics for year 2020 Build Alternative 2 conditions are illustrated in **Figures 5.3.2.1-1a, 5.3.2.1-1b, 5.3.2.1-1c, and 5.3.2.1-1d**. Year 2020 Build Alternative 2 intersection geometrics includes proposed roadway improvements as listed in the RTP that are expected to be in place by year 2020, as in Build Alternative 1.

A level of service analysis using the previously described methodologies was conducted to evaluate year 2020 Build Alternative 2 traffic conditions in the study area. The results of the intersection level of service analysis are summarized in **Table 5.3.2.1-1**. Detailed levels of service calculation worksheets are included in **Appendix F**.

As **Table 5.3.2.1-1** indicates, all study area intersections are projected to operate at satisfactory levels of service, with the following exceptions:

- ◆ Hamner Avenue and Schleisman Road (a.m. and p.m. peak hours);
- ◆ Hamner Avenue and 2nd Street (p.m. peak hour);
- ◆ I-15 Northbound Ramps and 2nd Street (p.m. peak hour);
- ◆ Valley View Avenue and 2nd Street (p.m. peak hour);
- ◆ Hamner Avenue and Hidden Valley Parkway (p.m. peak hour);
- ◆ I-15 Southbound Off-Ramp and Hidden Valley Parkway (p.m. peak hour);
- ◆ I-15 Northbound On-Ramp and Hidden Valley Parkway (p.m. peak hour);

- ◆ Rimpau Avenue and Magnolia Avenue (p.m. peak hour);
- ◆ Crossroads Street and Foothill Parkway (p.m. peak hour);
- ◆ Bedford Canyon Road and El Cerrito Road (p.m. peak hour);
- ◆ I-15 Southbound Ramps and El Cerrito Road (p.m. peak hour);
- ◆ Katy Way and El Cerrito Road (a.m. and p.m. peak hours);
- ◆ Bedford Canyon Road and Cajalco Road (a.m. and p.m. peak hours);
- ◆ Nob Hill Road/Knabe Road and Weirick Road (p.m. peak hour);
- ◆ De Palma Road and Horsethief Canyon Road (p.m. peak hour);
- ◆ Collier Avenue and Nichols Road (a. m. peak hour);
- ◆ Auto Center Drive and Franklin Street (a.m. peak hour);
- ◆ Auto Center Drive/Casino Drive and Railroad Canyon Road (p.m. peak hour).

Table 5.3.2.1-1 - Year 2020 Intersection Peak Hour Level of Service - Build Alternative 2

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	0.79	34.7	C	0.94	36.5	D
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.31	6.9	A	0.32	5.8	A
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.25	14.6	B	0.38	16.4	B
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	0.60	29.3	C	0.69	32.9	C
5	Hamner Avenue and Limonite Avenue	Signal	0.91	42.3	D	0.98	51.0	D
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.55	5.2	A	1.09	53.4	D
7	I-15 Southbound Ramps and Limonite Avenue	Signal	0.92	21.8	C	1.02	42.4	D
8	I-15 Northbound Ramps and Limonite Avenue	Signal	0.76	19.2	B	0.94	31.6	C
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	0.8	A	N/A	16.6	C
10	Pats Ranch Road and Limonite Avenue	Signal	0.49	8.7	A	0.78	16.1	B
11	Wineville Road and Limonite Avenue	Signal	0.79	31.3	C	0.98	41.7	D
12	Hamner Avenue and Schleisman Road	Signal	0.99	55.7	E	0.92	56.9	E
13	I-15 Southbound Ramps and Schleisman Road	Signal	0.39	32.8	C	0.38	33.5	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
14	I-15 Northbound Ramps and Schleisman Road	Signal	0.25	26.0	C	0.29	21.2	C
15	Future Road (East of I-15) and Schleisman Road	Signal	0.16	31.6	C	0.20	21.0	C
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	0.75	30.6	C	0.77	29.4	C
17	I-15 Southbound Ramps and 6 th Street	Signal	0.62	18.3	B	0.85	27.6	C
18	I-15 Northbound Ramps and 6 th Street	Signal	0.57	8.3	A	0.83	19.4	B
19	Sierra Avenue and 6 th Street	Signal	0.63	24.3	C	0.65	18.7	B
20	Hamner Avenue and 2 nd Street	Signal	0.70	36.0	D	1.12	85.8	F
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.78	19.4	B	1.03	36.2	D
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.89	36.6	D	1.15	71.9	E
23	Valley View Avenue and 2 nd Street	AWSC	N/A	14.3	B	N/A	48.8	E
24	Hamner Avenue and Hidden Valley Parkway	Signal	0.91	50.9	D	1.61	173.7	F
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.58	17.1	B	1.80	58.9	E
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.59	6.1	A	1.06	22.0	C
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.66	6.6	A	1.43	147.6	F
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.52	18.4	B	0.86	44.3	D
29	Garland Way and Hidden Valley Parkway	Signal	0.40	13.4	B	0.65	20.3	C
30	Rimpau Avenue and Magnolia Avenue	Signal	0.72	30.2	C	1.63	265.0	F
31	El Sobrante Road and Magnolia Avenue	Signal	0.52	21.1	C	0.91	46.6	D
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	0.72	30.9	C	1.10	49.7	D
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.47	13.8	B	0.55	13.1	B
34	El Camino Avenue and Magnolia Avenue	Signal	0.53	38.1	D	0.67	37.5	D
35	Compton Avenue and Ontario Avenue	Signal	0.50	8.9	A	0.87	15.2	B
36	I-15 Southbound Ramps and Ontario Avenue	Signal	0.56	10.9	B	0.64	13.1	B
37	I-15 Northbound Ramps and Ontario Avenue	Signal	0.64	20.3	C	0.69	14.1	B

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
38	State Street and Ontario Avenue	2WSC	N/A	6.3	A	N/A	4.6	A
39	Crossroads Street and Foothill Parkway	Signal	0.66	14.4	B	1.21	151.2	F
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	0.93	32.4	C	1.44	221.3	F
41	I-15 Southbound Ramps and El Cerrito Road	Signal	0.89	42.5	D	1.14	97.0	F
42	I-15 Northbound Ramps and El Cerrito Road	Signal	0.75	26.5	C	0.39	13.3	B
43	Katy Way and El Cerrito Road	AWSC	N/A	29.9	D	N/A	294.0	F
44	Bedford Canyon Road and Cajalco Road	Signal	1.20	82.3	F	1.16	81.0	F
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.45	11.2	B	0.78	21.2	C
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.52	6.2	A	0.41	7.3	A
47	Grand Oaks Road and Cajalco Road	Signal	0.37	5.8	A	0.46	15.3	B
48	Temescal Canyon Road and Cajalco Road	Signal	0.76	31.7	C	0.65	35.7	D
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.56	29.5	C	0.59	98.7	F
50	I-15 Southbound Ramps and Weirick Road	Signal	0.48	14.1	B	0.43	25.1	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.48	17.0	B	0.37	9.9	A
52	Temescal Canyon Road and Weirick Road	Signal	0.55	26.3	C	0.67	30.1	C
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.31	28.8	C	0.45	15.5	B
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.42	15.7	B	0.44	20.1	C
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	0.39	14.6	B	0.46	16.3	B
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.29	20.0	B	0.43	19.6	B
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.35	18.3	B	0.35	16.6	B
58	I-15 Southbound Ramps and Indian Truck Trail	Signal	0.21	17.2	B	0.35	12.9	B
59	I-15 Northbound Ramps and Indian Truck Trail	Signal	0.17	6.4	A	0.18	9.8	A
60	Temescal Canyon Road and Indian Truck Trail	Signal	0.45	24.9	C	0.38	33.6	C
61	De Palma Road and Horsethief Canyon Road	1WSC	N/A	30.1	D	N/A	240.2	F

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
62	I-15 Southbound Ramps and Horsethief Canyon Road		Future Intersection					
63	I-15 Northbound Ramps and Horsethief Canyon Road		Future Intersection					
64	Temescal Canyon Road and Horsethief Canyon Road	1WSC	N/A	0.0	A	N/A	11.2	B
65	Temescal Canyon Road and Lake Street	Signal	0.92	27.9	C	0.88	32.5	C
66	I-15 Southbound Ramps and Lake Street	Signal	0.98	36.0	D	0.84	47.9	D
67	I-15 Northbound Ramps and Lake Street	Signal	0.59	18.3	B	0.56	22.4	C
68	Walker Canyon Road and Lake Street	2WSC	N/A	2.8	A	N/A	3.9	A
69	Collier Avenue and Nichols Road	1WSC	N/A	> 500	F	N/A	7.9	A
70	I-15 Southbound Ramps and Nichols Road	AWSC	N/A	10.5	B	N/A	14.5	B
71	I-15 Northbound Ramps and Nichols Road	AWSC	N/A	10.9	B	N/A	13.3	B
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.78	28.1	C	0.76	29.5	C
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	0.62	17.9	B	0.77	18.7	B
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.51	8.3	A	0.64	11.4	B
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.53	21.0	C	0.61	24.0	C
76	Flint Street and Main Street	2WSC	N/A	5.0	A	N/A	21.9	C
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	3.4	A	N/A	8.9	A
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	9.0	A	N/A	6.0	A
79	Camino Del Norte and Main Street	1WSC	N/A	3.8	A	N/A	8.9	A
80	Auto Center Drive and Franklin Street	Signal	0.64	19.2	B	0.38	19.6	B
81	I-15 Southbound Ramps and Franklin Street	Signal	0.25	17.6	B	0.32	13.0	B
82	I-15 Northbound Ramps and Franklin Street	Signal	0.22	26.1	C	0.20	19.1	B
83	Canyon Estates Drive and Franklin Street	Signal	11.1	0.64	B	0.64	41.9	D
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	0.42	23.2	C	1.00	74.6	E
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.16	22.0	C	0.26	24.8	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.33	6.6	A	0.37	11.8	B
87	Summerhill Drive and Railroad Canyon Road	Signal	0.54	32.2	C	1.01	49.5	D
88	Mission Trail and Olive Street	Signal	0.74	18.6	B	0.88	24.0	C
89	I-15 Southbound Ramps and Olive Street	Signal	0.58	17.4	B	0.52	12.8	B
90	I-15 Northbound Ramps and Olive Street	Signal	0.44	9.2	A	0.57	15.4	B
91	Grape Street and Olive Street	Signal	0.71	17.2	B	1.06	38.5	D
92	Orange Street and Bundy Canyon Road	Signal	0.53	17.9	B	0.44	16.7	B
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.54	14.1	B	0.67	17.4	B
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.52	15.1	B	0.53	15.0	B
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	1.5	A	N/A	9.6	A
96	Central Street and Baxter Road	Signal	0.38	10.0	A	0.79	20.0	B
97	I-15 Southbound Ramps and Baxter Road	Signal	0.32	27.9	C	0.58	18.0	B
98	I-15 Northbound Ramps and Baxter Road	Signal	0.34	28.8	C	0.61	21.4	C
99	Monte Vista Drive and Baxter Road	1WSC	N/A	6.6	A	N/A	6.2	A
100	Hidden Springs Road and Clinton Keith Road	Signal	0.56	18.5	B	0.66	21.9	C
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.57	21.3	C	0.64	17.5	B
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.60	13.3	B	0.55	15.4	B
103	Arya Drive and Clinton Keith Road	Signal	0.67	15.7	B	0.90	28.2	C
104	I-15 Southbound Ramp / Madison Avenue and Kalmia Street	Signal	0.46	26.5	C	0.63	26.3	C
105	I-15 Southbound Ramps and Kalmia Street	No conflicting movements						
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.38	12.5	B	0.56	13.6	B
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.38	14.2	B	0.62	18.5	B
108	Monroe Avenue and California Oaks Road	Signal	0.40	18.8	B	0.53	21.8	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.42	31.5	C	0.80	45.1	D

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.48	14.6	B	0.62	17.3	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.44	3.2	A	0.57	6.5	A
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	1.7	A	N/A	17.2	C
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.49	17.5	B	0.64	21.1	C

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control 2WSC - Two-Way Stop Control AWSC - All-Way Stop Control

5.3.2.2 Queuing Analysis

A queuing analysis using the previously described methodologies was conducted to determine the queue lengths at the freeway ramp intersections under year 2020 Build Alternative 2 conditions. The results of the queuing analysis are summarized in **Table 5.3.2.2-1**. As can be seen from **Table 5.3.2.2-1**, the 95th percentile queue lengths of several turning movements are forecast to exceed the maximum available storage length during the a.m. or p.m. peak hour. Detailed queuing reports are included in **Appendix L**.

A closer look at the northbound and southbound off-ramp queues reveals that none of the queues are projected to back up to the freeway. Some of the turning movement queues at Limonite Avenue Southbound Off-Ramp, Limonite Avenue Northbound Off-Ramp, Magnolia Southbound Off-Ramp, and Central Avenue Northbound Off-Ramp are more than the available storage length for that particular movement. However, the length of these off-ramps is enough to accommodate the spillover from the turning movement queues.

- ◆ Temescal Canyon Road On-Ramp to Indian Truck Trail Off-Ramp (p.m. peak hour);
- ◆ Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp (p.m. peak hour);
- ◆ Indian Truck Trail On-Ramp to Horsethief Canyon Road Off-Ramp (a.m. and p.m. peak hours);
- ◆ Horsethief Canyon Road Off-Ramp to Horsethief Canyon Road On-Ramp (p.m. peak hour);
- ◆ Horsethief Canyon Road On-Ramp to Lake Street Off-Ramp (p.m. peak hour);
- ◆ Lake Street On-Ramp to Nichols Road Off-Ramp (p.m. peak hour);
- ◆ Nichols Road On-Ramp to SR-74 Westbound Off-Ramp (p.m. peak hour);
- ◆ SR-74 On-Ramp to Main Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Main Street Off-Ramp to Main Street On-Ramp (p.m. peak hour);
- ◆ Main Street On-Ramp to Franklin Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Franklin Street On-Ramp to Railroad Canyon Road Off-Ramp (a.m. and p.m. peak hours);
- ◆ Bundy Canyon Road On-Ramp to Baxter Road Off-Ramp (a.m. peak hour);
- ◆ Baxter Road Off-Ramp to Baxter Road On-Ramp (a.m. peak hour);
- ◆ Baxter Road On-Ramp to Clinton Keith Road Off-Ramp (a.m. and p.m. peak hours);
- ◆ Clinton Keith Road On-Ramp to California Oaks Road Off-Ramp (a.m. peak hour);
- ◆ California Oaks Road Off-Ramp to California Oaks Road Westbound On-Ramp (a.m. peak hour);
- ◆ California Oaks Road Westbound On-Ramp to California Oaks Road Eastbound On-Ramp (a.m. peak hour);
- ◆ California Oaks Road Eastbound On-Ramp to Murrieta Hot Springs Road Westbound On-Ramp (a.m. peak hour);
- ◆ Murrieta Hot Springs Road Eastbound On-Ramp to I-215 On-Ramp (a.m. peak hour).

Table 5.4.1.1-1 - Year 2040 Freeway Mainline Peak Hour Level of Service - No Build Alternative

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge to Murrieta Hot Springs Rd Off-Ramp	3	66.0	25.3	C	61.8	33.0	D
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	66.3	23.7	C	64.3	29.2	D
Murrieta Hot Springs Rd EB On-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	65.8	26.0	D	61.6	33.2	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Murrieta Hot Springs Rd WB On-Ramp to California Oaks Rd Off-Ramp	3	62.5	32.0	D	-	>45	F
California Oaks Rd Off-Ramp to California Oaks Rd EB On-Ramp	3	65.9	25.8	C	60.4	34.8	D
California Oaks Rd EB On-Ramp to California Oaks Rd WB On-Ramp	3	65.4	27.1	D	56.8	39.4	E
California Oaks Rd WB On-Ramp to Clinton Keith Rd Off-Ramp	3	64.5	28.9	D	-	>45	F
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.2	24.2	C	63.3	30.8	D
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	3	62.0	32.7	D	-	>45	F
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	63.6	30.3	D	57.2	39.0	E
Baxter Rd On-Ramp to Bundy Canyon Rd Off-Ramp	3	62.5	32.0	D	55.0	41.7	E
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	65.8	26.0	C	63.8	30.0	D
Bundy Canyon Rd On-Ramp to Olive St Off-Ramp	3	65.0	27.9	D	62.2	32.4	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.0	25.4	C	63.7	30.1	D
Olive St On-Ramp to Railroad Canyon Rd Off-Ramp	3	64.4	28.9	D	61.2	33.7	D
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	64.9	28.0	D	62.9	31.5	D
Railroad Canyon Rd On-Ramp to Franklin St Off-Ramp	3	62.3	32.3	D	58.9	36.8	E
Franklin St Off-Ramp to Franklin St On-Ramp	3	63.1	31.1	D	61.5	33.4	D
Franklin St On-Ramp to Main St Off-Ramp	3	56.8	39.4	E	56.4	39.9	E
Main St Off-Ramp to Main St On-Ramp	3	60.4	34.8	D	60.3	34.9	D
Main St On-Ramp to EB SR-74 Off-Ramp	3	58.0	37.9	E	57.0	39.2	E
SR-74 Off-Ramp to SR-74 EB On-Ramp	3	65.0	27.8	D	65.3	27.2	D
SR-74 EB On-Ramp to SR-74 WB On-Ramp	3	64.2	29.4	D	64.6	28.6	D
SR-74 WB On-Ramp to Nichols Rd Off-Ramp	3	63.5	30.8	D	65.0	28.5	D
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	3	64.1	30.0	D	65.4	27.8	D
Nichols Rd On-Ramp to Lake St Off-Ramp	3	63.4	31.0	D	64.4	29.4	D
Lake St Off-Ramp to Lake St On-Ramp	3	65.1	28.4	D	65.6	27.4	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Lake St On-Ramp to Horsethief Canyon Rd Off-Ramp	3	60.2	35.3	E	64.8	28.9	D
Horsethief Canyon Rd Off-Ramp to Horsethief Canyon Rd On-Ramp	3	63.8	30.4	D	65.7	27.1	D
Horsethief Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	3	56.6	39.8	E	61.8	33.3	D
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	3	58.8	37.1	E	62.3	32.5	D
Indian Truck Trail On-Ramp to Temescal Canyon Rd Off-Ramp	3	53.7	43.7	E	59.2	36.6	E
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	3	63.5	30.9	D	60.6	34.8	D
Temescal Canyon Rd On-Ramp to Weirick Rd Off-Ramp	3	-	>45	F	54.8	42.2	E
Weirick Rd Off-Ramp to CETAP (I-15 to I-215) Off-Ramp	3	55.5	41.2	E	59.2	36.6	E
CETAP (I-15 to I-215) Off-Ramp to Weirick Rd On-Ramp	4	67.5	25.3	C	68.0	23.8	C
Weirick Rd On-Ramp to Cajalco Rd On-Ramp	4	65.5	28.9	D	67.6	25.2	C
Cajalco Rd On-Ramp to CETAP (I-15 to I-215) On-Ramp	4	61.5	33.7	D	66.0	26.7	D
CETAP (I-15 to I-215) On-Ramp to El Cerrito Rd On-Ramp/SR-91 HOT Lane Connector	3	-	>45	F	-	>45	F
El Cerrito Rd On-Ramp/SR-91 HOT Lane Connector to Ontario Ave Off-Ramp	3	-	>45	F	-	>45	F
Ontario Ave Off-Ramp to Lane Addition	3	-	>45	F	-	>45	F
Lane Addition to Ontario Ave On-Ramp	4	-	>45	F	53.6	42.2	E
Ontario Ave On-Ramp to Corridor A Off-Ramp	4	-	>45	F	-	>45	F
Corridor A On-Ramp to Magnolia Ave Off-Ramp	4	-	>45	F	58.5	35.3	E
Magnolia Ave Off-Ramp to Magnolia Ave EB On-Ramp	3	-	>45	F	-	>45	F
Magnolia Ave EB On to Magnolia Ave WB On-Ramp	3	-	>45	F	-	>45	F
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	4	See Weaving Analysis					
SR-91 Off-Ramp to SR-91 WB On-Ramp	3	60.6	27.9	D	60.7	26.3	D
SR-91 WB On-Ramp to SR-91 EB On-Ramp	3	55.3	39.2	E	57.6	35.7	E
SR-91 EB On-Ramp to Corridor A Off-Ramp	4	56.8	37.9	E	60.3	32.6	D
Corridor A On-Ramp to Hidden Valley Pkwy Off-Ramp	4	-	>45	F	55.9	39.2	E

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Hidden Valley Pkwy Off-Ramp to Hidden Valley Pkwy On-Ramp/SR-91 HOT Lane Connector	4	55.8	39.3	E	61.1	31.1	D
Hidden Valley Pkwy On-Ramp/SR-91 HOT Lane Connector to 2 nd St Off-Ramp	5	See Weaving Analysis					
2 nd St Off-Ramp to Lane Deletion	4	55.5	39.7	E	56.3	38.7	E
Lane Deletion to 2 nd St On-Ramp	3	-	>45	F	-	>45	F
2 nd St On-Ramp to 6 th St Off-Ramp	3	-	>45	F	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	3	-	>45	F	-	>45	F
6 th St On-Ramp to Schleisman Rd Off-Ramp	3	-	>45	F	-	>45	F
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	3	-	>45	F	-	>45	F
Schleisman Rd On-Ramp to Limonite Ave Off-Ramp	3	-	>45	F	-	>45	F
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	3	-	>45	F	-	>45	F
Limonite Ave On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	3	-	>45	F	-	>45	F
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd On-Ramp	3	-	>45	F	-	>45	F
Cantu-Galleano Ranch Rd On-Ramp SR-60 EB Off-Ramp	4	-	>45	F	-	>45	F
SR-60 EB Off-Ramp to SR-60 WB Off-Ramp	4	-	>45	F	-	>45	F
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	-	>45	F	-	>45	F
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	-	>45	F	-	>45	F
North of SR-60 EB On-Ramp	5	-	>45	F	-	>45	F
I-15 Southbound							
North of SR-60 Off-Ramp	4	-	>45	F	-	>45	F
SR-60 Off-Ramp to SR-60 EB On-Ramp	3	51.6	44.7	E	-	>45	F
SR-60 EB On-Ramp to SR-60 WB On-Ramp	3	-	>45	F	-	>45	F
SR-60 WB On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	4	56.4	38.5	E	-	>45	F
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd WB On-Ramp	3	-	>45	F	-	>45	F
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	4	61.2	31.0	D	55.6	39.7	E

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Cantu-Galleano Ranch Rd EB On-Ramp to Limonite Ave Off-Ramp	3	-	>45	F	-	>45	F
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	3	-	>45	F	-	>45	F
Limonite Ave On-Ramp to Schleisman Rd Off-Ramp	3	-	>45	F	-	>45	F
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	3	-	>45	F	-	>45	F
Schleisman Rd On-Ramp to 6 th St Off-Ramp	3	-	>45	F	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	3	-	>45	F	-	>45	F
6 th St On-Ramp to 2 nd St Off-Ramp	3	-	>45	F	-	>45	F
2 nd St Off-Ramp to Lane Addition	3	-	>45	F	-	>45	F
Lane Addition to 2 nd St On-Ramp	4	-	>45	F	54.3	41.4	E
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/SR-91 HOT Connector	5	See Weaving Analysis					
Hidden Valley Pkwy Off-Ramp/Sr-91 HOT Connector to Hidden Valley Pkwy On-Ramp	4	54.2	41.5	E	55.1	40.3	E
Hidden Valley Pkwy On-Ramp to Corridor A Off-Ramp	4	-	>45	F	-	>45	F
Corridor A On-Ramp to Lane Addition	4	55.0	40.4	E	55.9	39.2	E
Lane Addition to SR-91 WB Off-Ramp	5	63.4	28.1	D	63.6	27.6	D
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	3	55.3	39.5	E	56.4	37.8	E
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	3	61.0	28.4	D	61.1	27.5	D
SR-91 EB On-Ramp to SR-91 WB On-Ramp	4	60.3	32.6	D	61.5	30.2	D
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weaving Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp	4	59.7	33.2	D	60.5	31.8	D
Magnolia Ave On-Ramp to Corridor A Off-Ramp	4	57.4	36.9	E	55.4	39.7	E
Corridor A On-Ramp to Ontario Ave Off-Ramp	4	-	>45	F	-	>45	F
Ontario Ave Off-Ramp to Ontario Ave On-Ramp	4	56.4	38.2	E	-	>45	F
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp/SR-91 HOT Lane Connector	4	-	>45	F	-	>45	F
El Cerrito Rd Off-Ramp/SR-91 HOT Lane Connector to CETAP (I-15 to I-215) Off-Ramp	6	63.1	28.0	D	62.2	31.5	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
CETAP (I-15 to I-215) Off-Ramp to Cajalco Rd Off-Ramp	5	63.7	24.0	C	63.6	25.6	C
Cajalco Rd Off-Ramp to CETAP (I-15 to I-215) Westbound On-Ramp	4	66.3	25.9	C	65.3	28.1	D
CETAP (I-15 to I-215) Westbound On-Ramp to Cajalco Rd On-Ramp	4	65.8	27.2	D	63.9	30.4	D
Cajalco Rd On-Ramp to Weirick Rd Off-Ramp	4	66.1	28.1	D	60.5	35.6	E
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	3	56.6	39.9	E	-	>45	F
Weirick Rd On-Ramp to Temescal Canyon Rd Off-Ramp	3	55.7	41.0	E	-	>45	F
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	3	60.1	35.4	E	60.5	34.9	D
Temescal Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	3	59.0	36.8	E	-	>45	F
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	3	61.0	34.3	D	54.8	42.2	E
Indian Truck Trail On-Ramp to Horsethief Canyon Rd Off-Ramp	3	60.1	35.4	E	-	>45	F
Horsethief Canyon Rd Off-Ramp to Horsethief Canyon Rd On-Ramp	3	64.8	28.8	D	58.7	37.2	E
Horsethief Canyon Rd On-Ramp to Lake St Off-Ramp	3	63.7	30.6	D	57.5	38.7	E
Lake St Off-Ramp to Lake St On-Ramp	3	65.4	27.6	D	62.5	32.3	D
Lake St On-Ramp to Nichols Rd Off-Ramp	3	63.8	30.4	D	59.8	35.8	E
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	3	64.6	29.2	D	62.0	32.9	D
Nichols Rd On-Ramp to SR-74 WB Off-Ramp	3	64.2	29.8	D	60.1	35.4	E
SR-74 WB Off-Ramp to SR-74 On-Ramp	3	65.8	26.9	D	62.2	32.7	D
SR-74 On-Ramp to Main St Off-Ramp	3	59.8	35.6	E	-	>45	F
Main St Off-Ramp to Main St On-Ramp	3	60.5	34.7	D	59.1	36.4	E
Main St On-Ramp to Franklin St Off-Ramp	3	59.0	36.7	E	55.0	41.7	E
Franklin St Off-Ramp to Franklin St On-Ramp	3	61.5	33.3	D	60.9	34.2	D
Franklin St On-Ramp to Railroad Canyon Rd Off-Ramp	3	60.1	35.2	E	60.2	35.1	E
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	62.1	32.6	D	64.5	28.7	D
Railroad Canyon Rd On-Ramp to Olive St Off-Ramp	3	61.3	33.6	D	63.4	30.7	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Olive St Off-Ramp to Olive St On-Ramp	3	63.8	30.0	D	65.0	27.8	D
Olive St On-Ramp to Bundy Canyon Rd Off-Ramp	3	61.4	33.4	D	63.9	29.8	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	63.5	30.4	D	65.2	27.5	D
Bundy Canyon Rd On-Ramp to Baxter Rd Off-Ramp	3	56.9	39.3	E	61.7	33.1	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	57.8	38.2	E	62.7	31.7	D
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	3	54.6	42.2	E	59.5	36.0	E
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	63.6	30.3	D	66.3	23.9	C
Clinton Keith Rd On-Ramp to California Oaks Rd Off-Ramp	3	53.3	44.0	E	64.8	28.2	D
California Oaks Rd Off-Ramp to California Oaks Rd WB On-Ramp	3	59.4	36.1	E	65.8	25.9	C
California Oaks Rd WB On-Ramp to California Oaks Rd EB On-Ramp	3	55.2	41.4	E	64.2	29.4	D
California Oaks Rd EB On-Ramp to Murrieta Hot Springs Rd Off-Ramp	3	-	>45	F	62.2	32.3	D
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	62.9	31.5	D	66.3	24.0	C
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	62.0	32.7	D	66.2	24.5	C
Murrieta Hot Springs Rd EB On-Ramp to I-215 On-Ramp	3	59.7	35.7	E	65.2	27.4	D

5.4.1.2 Ramp Level of Service

Year 2040 No Build a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 5.4.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Year 2040 No Build freeway ramp levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.4.1.1-1a, 5.4.1.1-1b, 5.4.1.1-1c, and 5.4.1.1-1d**. As **Table 5.4.1.2-1** indicates, all freeway ramp junctions are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Murrieta Hot Springs Road Off-Ramp (p.m. peak hour);
- ◆ Murrieta Hot Springs Road Westbound On-Ramp (p.m. peak hour);
- ◆ California Oaks Road Off-Ramp (a.m. and p.m. peak hours);
- ◆ California Oaks Road Westbound On-Ramp (p.m. peak hour);
- ◆ Clinton Keith Road On-Ramp (p.m. peak hour);

- ◆ Bundy Canyon Road Off-Ramp (a.m. peak hour);
- ◆ Bundy Canyon Road On-Ramp (a.m. peak hour);
- ◆ Baxter Road Off-Ramp (a.m. and p.m. peak hours);
- ◆ Clinton Keith Road On-Ramp (a.m. peak hour);
- ◆ California Oaks Road Eastbound On-Ramp (a.m. peak hour);
- ◆ Murrieta Hot Springs Road Off-Ramp (a.m. peak hour).

Table 5.4.1.2-1 - Year 2040 Freeway Ramp Peak Hour Level of Service - No Build Alternative

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp	1	57.3	30.7	D	56.8	35.4	E
Murrieta Hot Springs Rd EB On-Ramp	1	59.5	26.6	C	57.1	31.5	D
Murrieta Hot Springs Rd WB On-Ramp	1	55.8	33.0	D	36.6	43.6	F
California Oaks Rd Off-Ramp	1	55.7	39.1	E	54.8	51.6	F
California Oaks Rd EB On-Ramp	1	59.4	26.9	C	55.2	34.0	D
California Oaks Rd WB On-Ramp	1	58.8	28.3	D	53.4	35.8	E
Clinton Keith Rd Off-Ramp	2	56.1	20.0	B	54.9	30.3	D
Clinton Keith Rd On-Ramp	1	55.5	33.3	D	48.5	38.8	F
Baxter Rd Off-Ramp	1	57.3	37.8	E	56.7	43.0	F
Baxter Rd On-Ramp	1	58.0	30.1	D	55.0	34.3	D
Bundy Canyon Rd Off-Ramp	1	55.8	35.6	E	55.1	39.3	E
Bundy Canyon Rd On-Ramp	1	59.0	27.8	C	57.7	30.6	D
Olive St Off-Ramp	1	57.0	32.7	D	57.3	35.0	D
Olive St On-Ramp	1	58.4	29.2	D	57.0	31.6	D
Railroad Canyon Rd Off-Ramp	1	57.7	33.0	D	57.4	35.5	E
Railroad Canyon Rd On-Ramp	1	57.2	31.2	D	55.7	33.4	D
Franklin St Off-Ramp	1	57.6	36.6	E	57.2	38.6	E
Franklin St On-Ramp	1	53.9	35.1	E	54.5	34.6	D
Main St Off-Ramp	1	57.0	40.5	E	56.9	38.0	E
Main St On-Ramp	1	56.0	33.1	D	55.3	33.8	D
SR-74 Off-Ramp	2	55.1	24.9	C	54.5	27.0	C
SR-74 EB On-Ramp	1	58.7	28.6	D	58.3	30.3	D
SR-74 WB On-Ramp	1	58.3	29.5	D	59.2	27.5	C
Nichols Rd Off-Ramp	1	57.7	34.1	D	57.7	32.8	D
Nichols Rd On-Ramp	1	58.4	29.4	D	58.7	28.7	D
Lake St Off-Ramp	1	57.1	34.5	D	57.3	33.5	D
Lake St On-Ramp	1	55.4	33.5	D	58.8	28.3	D
Horsethief Canyon Rd Off-Ramp	1	56.6	36.5	E	57.3	33.2	D
Horsethief Canyon Rd On-Ramp	1	54.4	34.6	D	56.7	31.9	D
Indian Truck Trail Off-Ramp	1	57.5	37.9	E	57.8	35.2	E

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Indian Truck Trail On-Ramp	1	53.5	35.6	E	56.1	32.9	D
Temescal Canyon Rd Off-Ramp	1	55.1	40.2	E	57.6	36.5	E
Temescal Canyon Rd On-Ramp	1	48.6	38.8	F	53.6	35.5	E
Weirick Rd Off-Ramp	1	57.1	41.8	F	56.9	39.4	E
CETAP (I-15 to I-215) Off-Ramp	1	57.9	38.8	E	58.0	36.4	E
Weirick Rd On-Ramp	1	58.7	28.5	D	60.2	24.3	C
Cajalco Rd On-Ramp	1	57.6	30.6	D	60.0	24.8	C
CETAP (I-15 to I-215) On-Ramp (Major Merge)	2	-	-	F	-	-	F
El Cerrito Rd On-Ramp/SR-91 HOT Lane Connector	1	23.6	47.5	F	49.5	37.3	F
Ontario Ave Off-Ramp	1	53.0	101.2	F	52.8	68.4	F
Ontario Ave On-Ramp	1	28.4	46.5	F	43.0	41.3	F
Magnolia Ave Off-Ramp (Major Diverge)	2	-	10.6	B	-	5.9	A
Magnolia Ave EB On-Ramp	1	#	58.5	F	27.9	46.8	F
Magnolia Ave WB On-Ramp	See Weave Analysis						
SR-91 Off-Ramp	See Weave Analysis						
SR-91 WB On-Ramp	1	51.0	35.7	E	52.5	34.0	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	A	-	-	A
Hidden Valley Pkwy Off-Ramp	1	53.3	43.5	F	52.8	41.4	E
Hidden Valley Pkwy On-Ramp	See Weave Analysis						
2 nd St Off-Ramp	See Weave Analysis						
2 nd St On-Ramp	1	6.0	51.3	F	#	53.1	F
6 th St Off-Ramp	1	53.3	57.8	F	53.2	59.9	F
6 th St On-Ramp	1	27.2	47.2	F	3.8	51.4	F
Schleisman Rd Off-Ramp	1	54.0	53.4	F	54.3	58.1	F
Schleisman Rd On-Ramp	1	23.8	47.9	F	#	52.8	F
Limonite Ave Off-Ramp	1	52.8	54.2	F	51.9	59.6	F
Limonite Ave On-Ramp	1	#	54.9	F	8.0	50.4	F
Cantu-Galleano Ranch Rd Off-Ramp	1	54.8	62.7	F	54.7	57.4	F
Cantu-Galleano Ranch Rd On-Ramp	1	#	61.5	F	#	60.0	F
SR-60 EB Off-Ramp	1	Lane Deletion					
SR-60 WB Off-Ramp	1	51.5	59.8	F	53.0	61.4	F
SR-60 WB On-Ramp (Major Merge)	2	-	-	F	-	-	F
SR-60 EB On-Ramp (Major Merge)	2	-	-	F	-	-	F
I-15 Southbound							
SR-60 Off-Ramp	2	42.3	59.7	F	45.5	46.7	F
SR-60 EB On-Ramp	1	41.5	42.2	F	22.6	47.7	F
SR-60 WB On-Ramp	1	22.8	48.1	F	#	54.5	F
Cantu-Galleano Ranch Rd Off-Ramp	1	52.7	41.2	E	53.4	42.7	F
Cantu-Galleano Ranch Rd WB On-Ramp	1	46.6	39.9	F	17.9	49.4	F
Cantu-Galleano Ranch Rd EB On-Ramp	1	55.3	29.5	D	54.0	32.0	D
Limonite Ave Off-Ramp	1	53.2	49.9	F	51.5	58.9	F
Limonite Ave On-Ramp	1	#	52.4	F	15.2	49.3	F

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Schleisman Rd Off-Ramp	1	53.9	59.9	F	53.8	56.1	F
Schleisman Rd On-Ramp	1	#	57.8	F	1.1	51.7	F
6 th St Off-Ramp	1	53.5	65.4	F	53.4	58.5	F
6 th St On-Ramp	1	#	57.4	F	#	53.2	F
2 nd St Off-Ramp	1	54.2	64.8	F	54.4	60.2	F
2 nd St On-Ramp		See Weave Analysis					
Hidden Valley Pkwy Off-Ramp		See Weave Analysis					
Hidden Valley Pkwy On-Ramp	1	50.9	38.2	F	50.8	36.1	F
SR-91 WB Off-Ramp (Major Diverge)	2	-	20.6	C	-	20.7	C
SR-91 EB Off-Ramp	1	52.4	38.4	E	52.4	37.9	E
SR-91 EB On-Ramp (Major Merge)	2	-	-	D	-	-	D
SR-91 WB On-Ramp		See Weave Analysis					
Magnolia Ave Off-Ramp		See Weave Analysis					
Magnolia Ave On-Ramp	1	54.9	30.4	D	52.8	33.8	D
Ontario Ave Off-Ramp	1	51.7	49.9	F	53.1	48.7	F
Ontario Ave On-Ramp	1	52.1	34.7	F	44.8	40.5	F
El Cerrito Rd Off-Ramp/SR-91 HOT Lane Connector	1	54.6	39.8	F	54.0	49.9	F
Cajalco Rd Off-Ramp	1	53.6	29.6	D	53.5	31.4	D
CETAP (I-15 to I-215) Westbound On-Ramp	1	59.9	25.2	C	59.0	27.8	C
Cajalco Rd On-Ramp	1	59.7	26.0	C	56.5	32.1	D
Weirick Rd Off-Ramp	1	56.4	33.9	D	55.2	40.7	E
Weirick Rd On-Ramp	1	55.2	34.1	D	47.0	40.2	F
Temescal Canyon Rd Off-Ramp	1	56.8	38.7	E	54.7	45.4	F
Temescal Canyon Rd On-Ramp	1	56.6	32.3	D	47.4	39.5	F
Indian Truck Trail Off-Ramp	1	57.4	36.7	E	56.6	44.1	F
Indian Truck Trail On-Ramp	1	57.1	31.6	D	53.2	36.0	E
Horsethief Canyon Rd Off-Ramp	1	56.0	36.9	E	56.6	40.9	E
Horsethief Canyon Rd On-Ramp	1	58.6	28.9	D	56.3	32.7	D
Lake St Off-Ramp	1	57.0	34.3	D	56.4	37.7	E
Lake St On-Ramp	1	58.1	29.8	D	56.4	32.5	D
Nichols Rd Off-Ramp	1	57.6	33.9	D	57.3	36.4	E
Nichols Rd On-Ramp	1	58.8	28.5	D	56.8	32.0	D
SR-74 WB Off-Ramp	2	57.0	20.7	C	57.3	239.0	C
SR-74 On-Ramp (Major Merge)	2	-	-	E	-	-	F
Main St Off-Ramp	1	57.8	39.5	E	56.2	44.4	E
Main St On-Ramp	1	56.6	32.3	D	52.7	36.3	E
Franklin St Off-Ramp	1	57.2	36.7	E	56.4	39.0	E
Franklin St On-Ramp	1	57.1	31.6	D	57.4	31.2	D
Railroad Canyon Rd Off-Ramp	2	57.3	23.8	C	56.1	23.7	C
Railroad Canyon Rd On-Ramp	1	57.7	30.7	D	58.3	29.5	D
Olive St Off-Ramp	1	56.9	35.6	E	57.0	34.3	D
Olive St On-Ramp	1	57.1	31.4	D	58.5	29.1	D

Ramp Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Bundy Canyon Rd Off-Ramp	1	57.1	35.5	E	57.1	33.7	D
Bundy Canyon Rd On-Ramp	1	53.7	35.3	E	56.5	32.2	D
Baxter Rd Off-Ramp	1	57.8	38.6	E	57.6	35.6	E
Baxter Rd On-Ramp	1	54.6	34.6	D	56.2	32.7	D
Clinton Keith Rd Off-Ramp	2	55.1	26.6	C	53.8	25.3	C
Clinton Keith Rd On-Ramp	1	50.3	37.7	E	58.4	29.1	D
California Oaks Rd Off-Ramp	2	56.5	27.1	C	57.1	19.5	B
California Oaks Rd WB On-Ramp	1	54.5	34.7	D	58.3	29.4	D
California Oaks Rd EB On-Ramp	1	45.2	40.9	F	55.1	34.1	D
Murrieta Hot Springs Rd Off-Ramp	2	54.7	31.8	F	54.8	22.2	C
Murrieta Hot Springs Rd WB On-Ramp	1	57.9	30.3	D	60.1	24.5	C
Murrieta Hot Springs Rd EB On-Ramp	1	56.6	32.2	D	58.9	27.9	C

Due to extremely oversaturated conditions, ramp segment speed cannot be determined.

5.4.1.3 Weaving Level of Service

Year 2040 No Build a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 5.4.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. Year 2040 No Build freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.4.1.1-1a, 5.4.1.1-1b, 5.4.1.1-1c, and 5.4.1.1-1d**. As **Table 5.4.1.3-1** indicates, all freeway weaving segments are projected to operate at satisfactory levels of service, with the following exception:

I-15 Northbound

- ◆ Magnolia Avenue WB On-Ramp to SR-91 Off-Ramp (a.m. and p.m. peak hours).

Table 5.4.1.3-1 - Year 2040 Freeway Weaving Segment Peak Hour Level of Service - No Build Alternative

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	4	39.3	66.2	F	41.1	57.4	F
Hidden Valley Pkwy On-Ramp/SR-91 HOT Lane Connector to 2 nd St Off-Ramp	5	57.4	35.0	E	54.4	35.8	E
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/SR-91 HOT Connector	5	56.3	36.2	E	57.0	34.5	D
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	43.8	37.4	E	40.8	40.6	E

Table 5.4.2.1-1 - Year 2040 Intersection Peak Hour Level of Service - No Build Alternative

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	1.04	48.5	D	1.30	93.5	F
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.55	15.7	B	0.45	14.2	B
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.54	27.5	C	0.63	26.3	C
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	0.99	60.6	E	0.98	58.4	E
5	Hamner Avenue and Limonite Avenue	Signal	2.01	383.0	F	1.86	324.1	F
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.92	77.3	E	1.33	144.0	F
7	I-15 Southbound Ramps and Limonite Avenue	Signal	1.53	233.1	F	1.48	197.2	F
8	I-15 Northbound Ramps and Limonite Avenue	Signal	1.13	72.6	E	1.26	118.9	F
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	22.5	C	N/A	> 500	F
10	Pats Ranch Road and Limonite Avenue	Signal	0.96	49.0	D	1.19	108.7	F
11	Wineville Road and Limonite Avenue	Signal	1.59	190.5	F	1.79	255.0	F
12	Hamner Avenue and Schleisman Road	Signal	8.88	> 500	F	9.79	> 500	F
13	I-15 Southbound Ramps and Schleisman Road	Signal	0.91	22.4	C	0.91	17.5	B
14	I-15 Northbound Ramps and Schleisman Road	Signal	0.87	12.3	B	0.89	13.5	B
15	Future Road (East of I-15) and Schleisman Road	Signal	0.91	20.8	C	1.04	59.4	E
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	1.56	235.0	F	1.85	276.2	F
17	I-15 Southbound Ramps and 6 th Street	Signal	1.09	59.2	E	1.10	56.6	E
18	I-15 Northbound Ramps and 6 th Street	Signal	0.77	20.5	C	1.05	48.8	D
19	Sierra Avenue and 6 th Street	Signal	0.51	28.1	C	0.72	30.6	C
20	Hamner Avenue and 2 nd Street	Signal	1.28	109.2	F	1.21	95.6	F
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.67	20.9	C	0.75	21.8	C
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.88	34.4	C	1.04	60.2	E
23	Valley View Avenue and 2 nd Street	AWSC	N/A	17.3	C	N/A	25.0	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
24	Hamner Avenue and Hidden Valley Parkway	Signal	1.48	175.5	F	1.68	205.6	F
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.66	18.6	B	1.77	60.1	E
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.64	4.6	A	1.10	40.6	D
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.78	8.9	A	1.44	162.8	F
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.65	25.6	C	1.04	81.1	F
29	Garland Way and Hidden Valley Parkway	Signal	0.55	31.1	C	0.72	42.5	D
30	Rimpau Avenue and Magnolia Avenue	Signal	1.45	168.0	F	1.53	204.2	F
31	El Sobrante Road and Magnolia Avenue	Signal	0.84	84.2	F	1.05	93.1	F
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	1.19	89.5	F	1.26	99.9	F
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.92	13.9	B	0.75	12.0	B
34	El Camino Avenue and Magnolia Avenue	Signal	1.07	243.0	F	1.03	158.9	F
35	Compton Avenue and Ontario Avenue	Signal	1.07	57.1	E	1.21	73.9	E
36	I-15 Southbound Ramps and Ontario Avenue	Signal	1.09	45.3	D	1.01	40.6	D
37	I-15 Northbound Ramps and Ontario Avenue	Signal	1.03	49.6	D	1.06	40.1	D
38	State Street and Ontario Avenue	2WSC	N/A	> 500	F	N/A	> 500	F
39	Crossroads Street and Foothill Parkway	Signal	0.74	26.4	C	1.34	333.4	F
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	0.97	90.7	F	1.51	399.6	F
41	I-15 Southbound Ramps and El Cerrito Road	Signal	1.37	184.0	F	1.81	346.3	F
42	I-15 Northbound Ramps and El Cerrito Road	Signal	1.01	26.8	C	0.58	14.7	B
43	Katy Way and El Cerrito Road	AWSC	N/A	335.9	F	N/A	211.3	F
44	Bedford Canyon Road and Cajalco Road	Signal	1.25	117.1	F	1.34	116.9	F
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.77	14.9	B	0.83	18.8	B
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.64	11.3	B	0.43	6.1	A
47	Grand Oaks Road and Cajalco Road	Signal	0.43	7.3	A	0.54	20.3	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
48	Temescal Canyon Road and Cajalco Road	Signal	1.25	115.6	F	1.14	168.1	F
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.66	30.6	C	0.62	37.0	D
50	I-15 Southbound Ramps and Weirick Road	Signal	0.94	47.2	D	0.56	26.4	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.90	30.4	C	0.51	15.1	B
52	Temescal Canyon Road and Weirick Road	Signal	1.12	82.1	F	0.93	54.3	D
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.67	12.7	B	0.61	15.9	B
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.70	26.8	C	1.25	152.4	F
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	1.40	292.8	F	0.76	25.6	C
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.48	10.7	B	1.03	63.6	E
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.41	20.3	C	0.40	12.8	B
58	I-15 Southbound Ramps and Indian Truck Trail	Signal	0.19	30.6	C	0.25	19.6	B
59	I-15 Northbound Ramps and Indian Truck Trail	Signal	0.24	27.4	C	0.13	20.5	C
60	Temescal Canyon Road and Indian Truck Trail	Signal	1.24	115.9	F	0.45	7.8	A
61	De Palma Road and Horsethief Canyon Road	Signal	0.90	47.8	D	0.66	19.7	B
62	I-15 Southbound Ramps and Horsethief Canyon Road	Signal	0.78	35.5	D	0.60	22.9	C
63	I-15 Northbound Ramps and Horsethief Canyon Road	Signal	0.66	33.4	C	0.60	15.7	B
64	Temescal Canyon Road and Horsethief Canyon Road	Signal	1.46	168.3	F	7.9	> 500	F
65	Temescal Canyon Road and Lake Street	Signal	1.51	335.0	F	2.04	495.0	F
66	I-15 Southbound Ramps and Lake Street	Signal	0.43	20.3	C	0.40	19.1	B
67	I-15 Northbound Ramps and Lake Street	Signal	0.53	9.0	A	0.28	17.4	B
68	Walker Canyon Road and Lake Street	2WSC	N/A	3.4	A	N/A	0.5	A
69	Collier Avenue and Nichols Road	1WSC	N/A	5.4	A	N/A	6.8	A
70	I-15 Southbound Ramps and Nichols Road	Signal	0.24	13.4	B	0.23	21.4	C
71	I-15 Northbound Ramps and Nichols Road	Signal	0.23	26.5	C	0.24	17.9	B

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.81	43.0	D	0.84	35.5	D
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	0.53	14.0	B	0.78	9.1	A
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.66	9.4	A	0.72	10.3	B
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.59	18.0	B	0.68	19.8	B
76	Flint Street and Main Street	2WSC	N/A	76.2	F	N/A	> 500	F
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	2.2	A	N/A	10.6	B
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	17.7	C	N/A	32.5	D
79	Camino Del Norte and Main Street	1WSC	N/A	5.6	A	N/A	39.3	E
80	Auto Center Drive and Franklin Street	Signal	0.74	26.7	C	1.18	108.6	F
81	I-15 Southbound Ramps and Franklin Street	Signal	0.47	15.4	B	0.57	21.6	C
82	I-15 Northbound Ramps and Franklin Street	Signal	0.42	15.6	B	0.45	19.5	B
83	Canyon Estates Drive and Franklin Street	Signal	0.79	14.3	B	0.93	17.4	B
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	1.10	70.9	E	1.11	85.8	F
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.19	14.6	B	0.28	22.5	C
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.30	5.2	A	0.33	8.6	A
87	Summerhill Drive and Railroad Canyon Road	Signal	0.68	29.4	C	0.86	36.5	D
88	Mission Trail and Olive Street	Signal	1.42	158.8	F	1.25	107.9	F
89	I-15 Southbound Ramps and Olive Street	Signal	0.36	26.0	C	0.35	21.8	C
90	I-15 Northbound Ramps and Olive Street	Signal	0.35	48.2	D	0.35	33.4	C
91	Grape Street and Olive Street	Signal	0.94	29.9	C	0.91	23.4	C
92	Orange Street and Bundy Canyon Road	Signal	0.84	37.6	D	0.85	36.9	D
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.90	29.2	C	0.94	29.4	C
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.85	24.4	C	1.07	47.6	D
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	> 500	F	N/A	> 500	F

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
96	Central Street and Baxter Road	Signal	0.46	7.9	A	0.72	13.4	B
97	I-15 Southbound Ramps and Baxter Road	1WSC	N/A	1.7	A	N/A	4.6	A
98	I-15 Northbound Ramps and Baxter Road	1WSC	N/A	5.2	A	N/A	321.2	F
99	Monte Vista Drive and Baxter Road	1WSC	N/A	10.8	B	N/A	18.7	C
100	Hidden Springs Road and Clinton Keith Road	Signal	0.78	37.6	D	1.03	56.6	E
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.81	24.7	C	0.84	27.0	C
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.75	17.5	B	0.83	23.9	C
103	Arya Drive and Clinton Keith Road	Signal	0.86	31.0	C	1.20	114.6	F
104	I-15 Southbound Ramp / Madison Avenue and Kalmia Street	Signal	0.59	27.0	C	0.70	32.9	C
105	I-15 Southbound Ramps and Kalmia Street	No conflicting movements						
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.49	14.0	B	0.70	16.5	B
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.52	25.0	C	0.68	27.8	C
108	Monroe Avenue and California Oaks Road	Signal	0.49	26.7	C	0.67	33.2	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.52	37.3	D	1.01	65.1	E
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.62	14.1	B	0.71	16.4	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.45	9.8	A	0.61	9.5	A
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	1.4	A	N/A	17.6	C
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.64	22.7	C	0.77	19.8	B

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control 2WSC - Two-Way Stop Control AWSC - All-Way Stop Control

5.4.2.2 Queuing Analysis

A queuing analysis using the previously described methodologies was conducted to determine the queue lengths at the freeway ramp intersections. The results of the queuing analysis are summarized in **Table 5.4.2.2-1**. As can be seen from **Table 5.4.2.2-1**, the 95th percentile queue lengths of several turning movements are forecast to exceed the maximum available storage length during the a.m. or p.m. peak hour. Detailed queuing reports are included in **Appendix L**.

- ◆ Weirick Road Off-Ramp to Weirick Road On-Ramp (p.m. peak hour);
- ◆ Weirick Road On-Ramp to HOV Access (p.m. peak hour);
- ◆ HOV Access to Temescal Canyon Road Off-Ramp (p.m. peak hour);
- ◆ Temescal Canyon Road Off-Ramp to Temescal Canyon Road On-Ramp (p.m. peak hour);
- ◆ Temescal Canyon Road On-Ramp to HOV Access (p.m. peak hour);
- ◆ HOV Access to Indian Truck Trail Off-Ramp (p.m. peak hour);
- ◆ Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp (p.m. peak hour);
- ◆ Indian Truck Trail On-Ramp to HOV Access (p.m. peak hour);
- ◆ HOV Access to Horsethief Canyon Road Off-Ramp (p.m. peak hour);
- ◆ SR-74 Off-Ramp to SR-74 On-Ramp (p.m. peak hour);
- ◆ Lane Deletion/HOV Access to Main Street On-Ramp (p.m. peak hour);
- ◆ Railroad Canyon Road On-Ramp to Olive Street Off-Ramp (p.m. peak hour);
- ◆ Bundy Canyon Road On-Ramp/HOV Access to Baxter Road Off-Ramp (p.m. peak hour);
- ◆ Baxter Road Off-Ramp to Baxter Road On-Ramp (p.m. peak hour);
- ◆ Clinton Keith Road On-Ramp to HOV Access (a.m. peak hour);
- ◆ HOV Access to California Oaks Road Off-Ramp (a.m. peak hour);
- ◆ California Oaks Road Westbound On-Ramp to California Oaks Road Eastbound On-Ramp (a.m. peak hour).

Table 5.5.1.1-1 - Year 2040 Freeway Mainline Peak Hour Level of Service - Build Alternative 1

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge (/HOV Ingress) to Murrieta Hot Springs Rd Off-Ramp	3	66.4	23.0	C	58.3	37.5	E
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	66.5	21.5	C	61.7	33.1	D
Murrieta Hot Springs Rd EB On-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	66.2	24.4	C	56.7	39.6	E
Murrieta Hot Springs Rd WB On-Ramp to California Oaks Rd Off-Ramp	4	68.0	21.0	C	62.7	32.5	D
California Oaks Rd Off-Ramp to California Oaks Rd EB On-Ramp	4	68.0	17.7	B	67.0	25.7	C
California Oaks Rd EB On-Ramp to California Oaks Rd WB On-Ramp	4	68.0	18.5	C	65.9	27.9	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
California Oaks Rd WB On-Ramp to HOV Access	4	68.0	19.5	C	64.5	30.1	D
HOV Access to Clinton Keith Rd Off-Ramp	4	68.0	18.5	C	65.3	28.6	D
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	4	68.0	15.6	B	67.9	22.5	C
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	4	68.0	20.9	C	65.3	28.9	D
Baxter Rd Off-Ramp to HOV Access	4	68.0	19.9	C	66.6	26.6	D
HOV Access to Baxter Rd On-Ramp	4	68.0	19.0	C	66.9	25.9	C
Baxter Rd On-Ramp to Bundy Canyon Rd Off-Ramp	4	68.0	19.7	C	66.4	27.0	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.4	22.8	C	62.9	31.5	D
Bundy Canyon Rd On-Ramp to Olive St Off-Ramp	3	66.0	25.3	C	59.3	36.2	E
Olive St Off-Ramp to Olive St On-Ramp	3	66.3	24.1	C	61.3	33.6	D
Olive St On-Ramp to Railroad Canyon Rd Off-Ramp	3	64.5	28.9	D	56.8	39.4	E
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	65.3	27.3	D	61.3	33.6	D
Railroad Canyon Rd On-Ramp to Franklin St Off-Ramp	3	61.4	33.5	D	54.9	41.9	E
Franklin St Off-Ramp to Franklin St On-Ramp	3	62.4	32.0	D	59.1	36.4	E
Franklin St On-Ramp to Main St Off-Ramp	3	56.4	39.9	E	55.1	41.7	E
Main St Off-Ramp/HOV Access to Main St On-Ramp	3	59.5	36.0	E	57.9	38.1	E
Main St On-Ramp to SR-74 Off-Ramp	4	67.3	24.8	C	67.0	25.5	C
SR-74 Off-Ramp to SR-74 EB On-Ramp	4	67.9	21.8	C	68.0	20.4	C
SR-74 EB On-Ramp to SR-74 WB On-Ramp	4	67.6	23.7	C	68.0	21.1	C
SR-74 WB On-Ramp to HOV Access	4	67.4	25.4	C	68.4	22.1	C
HOV Access to Nichols Rd Off-Ramp	4	67.3	25.7	C	68.2	22.9	C
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	4	67.6	24.9	C	68.3	22.3	C
Nichols Rd On-Ramp to HOV Access	4	67.3	25.8	C	68.1	23.6	C
HOV Access to Lake St Off-Ramp	4	67.4	25.5	C	68.2	23.3	C

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Lake St Off-Ramp to Lake St On-Ramp	4	67.8	24.6	C	68.3	22.4	C
Lake St On-Ramp to Horsethief Canyon Rd Off-Ramp	4	66.0	28.2	D	68.2	23.1	C
Horsethief Canyon Rd Off-Ramp to Horsethief Canyon Rd On-Ramp	4	66.5	27.3	D	68.4	22.0	C
Horsethief Canyon Rd On-Ramp to HOV Access	4	62.4	33.2	D	67.5	25.4	C
HOV Access to Indian Truck Trail Off-Ramp	4	63.7	31.6	D	67.5	25.3	C
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	64.2	30.8	D	67.6	25.2	C
Indian Truck Trail On-Ramp to HOV Access	4	61.1	34.8	D	66.6	27.1	D
HOV Access to Temescal Canyon Rd Off-Ramp	4	62.0	33.7	D	66.7	27.0	D
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	4	65.5	28.9	D	67.3	25.8	C
Temescal Canyon Rd On-Ramp to HOV Access	4	59.0	37.4	E	65.7	28.7	D
HOV Access to Weirick Rd Off-Ramp	4	61.7	34.0	D	66.0	28.1	D
Weirick Rd Off-Ramp to CETAP (I-15 to I-215) Off-Ramp	4	63.8	31.4	D	67.3	25.7	C
CETAP (I-15 to I-215) Off-Ramp to Weirick Rd On-Ramp/HOV Access	4	60.5	32.9	D	63.1	27.4	D
Weirick Rd On-Ramp/HOV Access to Cajalco Rd On-Ramp	4	57.3	37.6	E	62.6	28.9	D
Cajalco Rd On-Ramp to CETAP (I-15 to I-215) On-Ramp	4	-	>45	F	60.3	33.2	D
CETAP (I-15 to I-215) On-Ramp to El Cerrito Rd On-Ramp	5	-	>45	F	53.9	42.2	E
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	See Weaving Analysis					
Ontario Ave Off-Ramp to HOV Access/SR-91 HOT Connector	4	-	>45	F	-	>45	F
HOV Access/SR-91 HOT Connector to Ontario Ave On-Ramp	4	-	>45	F	-	>45	F
Ontario Ave On-Ramp to Corridor A Off-Ramp	4	-	>45	F	-	>45	F
Corridor A On-Ramp to Magnolia Ave Off-Ramp/HOV Access	4	-	>45	F	-	>45	F
Magnolia Ave Off-Ramp/HOV Access to Magnolia Ave EB On-Ramp	4	-	>45	F	-	>45	F
Magnolia Ave EB On-Ramp to Magnolia Ave WB On-Ramp	4	-	>45	F	-	>45	F
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	5	See Weaving Analysis					

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-91 Off-Ramp to SR-91 WB On-Ramp	4	61.7	28.9	D	62.1	26.9	D
SR-91 WB On-Ramp to SR-91 EB On-Ramp	4	58.7	34.9	D	59.1	34.3	D
SR-91 EB On-Ramp to Corridor A Off-Ramp	5	62.7	29.7	D	63.3	28.3	D
Corridor A On-Ramp to Hidden Valley Pkwy Off-Ramp	5	59.6	34.8	D	61.6	31.7	D
Hidden Valley Pkwy Off-Ramp to HOV Access/SR-91 HOT Connector	4	-	>45	F	56.8	37.9	E
HOV Access/SR-91 HOT Connector to Hidden Valley Pkwy On-Ramp	4	-	>45	F	59.8	33.6	D
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	See Weaving Analysis					
2 nd St Off-Ramp to 2 nd St On-Ramp	4	54.5	41.1	E	55.9	39.2	E
2 nd St On-Ramp to HOV Access	4	52.7	43.6	E	-	>45	F
HOV Access to 6 th St Off-Ramp	4	-	>45	F	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	4	57.2	37.4	E	55.7	39.5	E
6 th St On-Ramp to Schleisman Rd Off-Ramp/HOV Access	4	54.4	41.3	E	-	>45	F
Schleisman Rd Off-Ramp/HOV Access to Schleisman Rd On-Ramp	4	59.6	33.8	D	55.8	39.3	E
Schleisman Rd On-Ramp to Limonite Ave Off-Ramp	4	53.9	41.9	E	-	>45	F
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	61.1	31.3	D	60.0	33.3	D
Limonite Ave On-Ramp to HOV Access	4	-	>45	F	-	>45	F
HOV Access to Cantu-Galleano Ranch Rd Off-Ramp	4	-	>45	F	-	>45	F
Cantu-Galleano Ranch Rd Off-Ramp to HOV Egress	4	-	>45	F	52.0	44.5	E
HOV Egress to Cantu-Galleano Ranch Rd On-Ramp	5	56.1	39.5	E	57.7	37.4	E
Cantu-Galleano Ranch Rd On-Ramp to SR-60 EB Off-Ramp	5	-	>45	F	-	>45	F
SR-60 EB Off-Ramp to SR-60 WB Off-Ramp	4	-	>45	F	-	>45	F
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	-	>45	F	-	>45	F
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	-	>45	F	-	>45	F
North of SR-60 EB On-Ramp	5	-	>45	F	-	>45	F

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Southbound							
North of SR-60 Off-Ramp	4	-	>45	F	-	>45	F
SR-60 Off-Ramp to HOV Access Ingress	4	-	>45	F	-	>45	F
HOV Access Ingress to SR-60 EB On-Ramp	3	-	>45	F	-	>45	F
SR-60 EB On-Ramp to SR-60 WB On-Ramp	4	52.7	43.6	E	-	>45	F
SR-60 WB On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	5	60.1	34.1	D	58.7	36.1	E
Cantu-Galleano Ranch Rd Off-Ramp to Cantu-Galleano Ranch Rd WB On-Ramp	4	52.4	44.1	E	-	>45	F
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	4	-	>45	F	-	>45	F
Cantu-Galleano Ranch Rd EB On-Ramp to Lane Deletion	5	59.4	35.1	E	57.7	37.4	E
Lane Deletion to HOV Access	4	-	>45	F	-	>45	F
HOV Access to Limonite Ave Off-Ramp	4	-	>45	F	-	>45	F
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	-	>45	F	56.3	38.6	E
Limonite Ave On-Ramp to Schleisman Rd Off-Ramp/HOV Access	4	-	>45	F	-	>45	F
Schleisman Rd Off-Ramp/HOV Access to Schleisman Rd On-Ramp	4	-	>45	F	-	>45	F
Schleisman Rd On-Ramp to 6 th St Off-Ramp	4	-	>45	F	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	4	-	>45	F	-	>45	F
6 th St On-Ramp to HOV Access	4	-	>45	F	-	>45	F
HOV Access to 2 nd St Off-Ramp	4	-	>45	F	-	>45	F
2 nd St Off-Ramp to 2 nd St On-Ramp	4	-	>45	F	-	>45	F
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/HOV Access/SR-91 HOT Connector	5	See Weaving Analysis					
Hidden Valley Pkwy Off-Ramp/HOV Access/SR-91 HOT Connector to Hidden Valley Pkwy On-Ramp	4	-	>45	F	-	>45	F
Hidden Valley Pkwy On-Ramp to Corridor A Off-Ramp	5	-	>45	F	-	>45	F
Corridor A On-Ramp to SR-91 WB Off-Ramp	5	-	>45	F	58.7	36.1	E
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	4	61.0	31.4	D	61.9	29.4	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	4	62.7	25.3	C	62.2	28.3	D
SR-91 EB On-Ramp to SR-91 WB On-Ramp	4	57.7	36.7	E	53.5	42.5	E
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weaving Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp/HOV Access/SR-91 HOT Connector	4	58.6	35.1	E	-	>45	F
Magnolia Ave On-Ramp/HOV Access/SR-91 HOT Connector to Corridor A Off-Ramp	4	-	>45	F	-	>45	F
Corridor A On-Ramp to Ontario Ave Off-Ramp/HOV Access	4	-	>45	F	-	>45	F
Ontario Ave Off-Ramp/HOV Access to Ontario Ave On-Ramp	4	-	>45	F	-	>45	F
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp	5	See Weaving Analysis					
El Cerrito Rd Off-Ramp to CETAP (I-15 to I-215) Off-Ramp	4	-	>45	F	-	>45	F
CETAP (I-15 to I-215) Off-Ramp to Cajalco Rd Off-Ramp	4	61.3	29.9	D	-	>45	F
Cajalco Rd Off-Ramp to HOV Access	4	62.2	25.4	C	54.6	40.7	E
HOV Access to WB CETAP (I-15 to I-215) On-Ramp	4	62.2	25.9	C	54.2	41.3	E
WB CETAP (I-15 to I-215) On-Ramp to Cajalco Rd On-Ramp	4	62.1	26.8	D	-	>45	F
Cajalco Rd On-Ramp to Weirick Rd Off-Ramp	4	67.4	25.5	C	-	>45	F
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	4	68.2	22.8	C	56.5	40.5	E
Weirick Rd On-Ramp to HOV Access	4	68.1	23.4	C	-	>45	F
HOV Access to Temescal Canyon Rd Off-Ramp	4	68.0	23.9	C	-	>45	F
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	4	68.4	21.9	C	57.3	39.5	E
Temescal Canyon Rd On-Ramp to HOV Access	4	68.3	22.4	C	53.7	44.0	E
HOV Access to Indian Truck Trail Off-Ramp	4	68.3	22.8	C	-	>45	F
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	68.4	21.8	C	58.7	37.7	E
Indian Truck Trail On-Ramp to HOV Access	4	68.4	22.2	C	57.9	38.8	E
HOV Access to Horsethief Canyon Rd Off-Ramp	4	68.3	22.5	C	55.5	41.7	E
Horsethief Canyon Rd Off-Ramp to Horsethief Canyon Rd On-Ramp	4	68.4	21.6	C	63.3	32.0	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Horsethief Canyon Rd On-Ramp to Lake St Off-Ramp	4	68.4	22.1	C	62.9	32.5	D
Lake St Off-Ramp to Lake St On-Ramp	4	68.5	19.4	C	65.9	28.4	D
Lake St On-Ramp to HOV Access	4	68.5	20.9	C	64.9	29.8	D
HOV Access to Nichols Rd Off-Ramp	4	68.5	20.8	C	64.7	30.1	D
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	4	68.5	19.8	C	66.4	27.5	D
Nichols Rd On-Ramp to HOV Access	4	68.5	20.0	C	65.7	28.7	D
HOV Access to SR-74 Off-Ramp	4	68.5	20.2	C	66.2	27.9	D
SR-74 Off-Ramp to SR-74 On-Ramp	3	66.4	25.1	C	56.4	40.1	E
SR-74 On-Ramp to Main St Off-Ramp	5	69.5	17.1	B	69.0	23.2	C
Main St Off-Ramp to Lane Deletion/HOV Access	4	67.9	21.4	C	66.0	27.7	D
Lane Deletion/HOV Access to Main St On-Ramp	3	64.3	29.2	D	-	>45	F
Main St On-Ramp to Franklin St Off-Ramp	4	67.9	21.6	C	65.2	29.0	D
Franklin St Off-Ramp to Franklin St On-Ramp	4	68.0	20.2	C	66.6	26.4	D
Franklin St On-Ramp to Railroad Canyon Rd Off-Ramp	4	67.9	21.9	C	66.3	27.2	D
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	64.6	28.6	D	60.5	34.6	D
Railroad Canyon Rd On-Ramp to Olive St Off-Ramp	3	62.7	31.7	D	56.9	39.3	E
Olive St Off-Ramp to Olive St On-Ramp	3	64.6	28.7	D	61.9	32.8	D
Olive St On-Ramp to Bundy Canyon Rd Off-Ramp	3	64.2	29.3	D	61.4	33.5	D
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp/HOV Access	3	65.8	26.0	D	64.8	28.3	D
Bundy Canyon Rd On-Ramp/HOV Access to Baxter Rd Off-Ramp	3	61.3	33.6	D	58.0	37.9	E
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	62.0	32.7	D	60.0	35.3	E
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	4	67.5	24.1	C	67.1	25.3	C
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	65.7	26.1	D	66.0	25.2	C
Clinton Keith Rd On-Ramp to HOV Access	3	59.3	36.2	E	63.7	30.2	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
HOV Access to California Oaks Rd Off-Ramp	3	56.6	39.7	E	61.4	33.5	D
California Oaks Rd Off-Ramp to California Oaks Rd WB On-Ramp	3	62.4	32.1	D	64.9	28.0	D
California Oaks Rd WB On-Ramp to California Oaks Rd EB On-Ramp	3	59.4	36.1	E	62.5	31.9	D
California Oaks Rd EB On-Ramp to Murrieta Hot Springs Rd Off-Ramp	4	67.1	25.4	C	67.7	23.3	C
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	64.9	28.1	D	66.3	23.8	C
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	64.4	29.1	D	66.2	24.3	C
Murrieta Hot Springs Rd EB On-Ramp to I-215 On-Ramp (/HOV Egress)	3	62.9	31.4	D	65.4	27.0	D

5.5.1.2 Ramp Level of Service

Year 2040 Build Alternative 1 a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 5.5.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Year 2040 Build Alternative 1 freeway ramp levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.5.1.1-1a, 5.5.1.1-1b, 5.5.1.1-1c, and 5.5.1.1-1d**. As **Table 5.5.1.2-1** indicates, all freeway ramp junctions are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Murrieta Hot Springs Road Off-Ramp (p.m. peak hour);
- ◆ California Oaks Road Eastbound On-Ramp (p.m. peak hour);
- ◆ Olive St Off-Ramp (p.m. peak hour);
- ◆ Railroad Canyon Road On-Ramp (p.m. peak hour);
- ◆ Franklin Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Franklin Street On-Ramp (a.m. peak hours);
- ◆ Main Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Cajalco Road On-Ramp (a.m. peak hour);
- ◆ CETAP (I-15 to I-215) On-Ramp (a.m. peak hour);
- ◆ Ontario Avenue On-Ramp (a.m. and p.m. peak hours);
- ◆ Magnolia Avenue Off-Ramp (a.m. and p.m. peak hours);
- ◆ Magnolia Avenue Eastbound On-Ramp (a.m. and p.m. peak hours);
- ◆ 2nd Street On-Ramp (p.m. peak hour);

- ◆ Olive Street Off-Ramp (p.m. peak hour);
- ◆ Baxter Road Off-Ramp (a.m. and p.m. peak hours);
- ◆ Clinton Keith Road On-Ramp (a.m. peak hour).

Table 5.5.1.2-1 - Year 2040 Freeway Ramp Peak Hour Level of Service - Build Alternative 1

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp	1	57.3	28.8	D	56.9	37.1	E
Murrieta Hot Springs Rd EB On-Ramp	1	59.8	25.6	C	54.6	34.5	D
Murrieta Hot Springs Rd WB On-Ramp	1	Lane Addition					
California Oaks Rd Off-Ramp	1	Lane Deletion					
California Oaks Rd EB On-Ramp	1	59.8	25.6	C	50.8	37.8	F
California Oaks Rd WB On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	6.8	A	-	12.0	B
Clinton Keith Rd On-Ramp	1	Lane Addition					
Baxter Rd Off-Ramp	1	57.3	25.6	C	56.8	33.6	D
Baxter Rd On-Ramp	1	61.1	19.3	B	60.0	25.0	C
Bundy Canyon Rd Off-Ramp (Major Diverge)	2	-	7.3	A	-	10.8	B
Bundy Canyon Rd On-Ramp	1	59.6	26.2	C	56.0	33.0	D
Olive St Off-Ramp	1	57.5	30.6	D	57.3	36.4	E
Olive St On-Ramp	1	58.0	29.7	D	54.8	34.3	D
Railroad Canyon Rd Off-Ramp	2	57.4	20.0	C	56.7	25.6	C
Railroad Canyon Rd On-Ramp	1	56.2	32.5	D	53.1	35.9	E
Franklin St Off-Ramp	1	57.6	40.5	E	56.9	42.4	E
Franklin St On-Ramp	1	54.0	35.0	E	54.5	34.7	D
Main St Off-Ramp	1	56.8	39.9	E	57.0	38.9	E
Main St On-Ramp (Major Merge)	2	-	-	C	-	-	C
SR-74 Off-Ramp (Major Diverge)	2	-	6.4	A	-	11.3	B
SR-74 EB On-Ramp	1	Lane Addition					
SR-74 WB On-Ramp	1	60.0	25.0	C	60.7	21.9	C
Nichols Rd Off-Ramp	1	57.6	29.8	D	57.7	27.1	C
Nichols Rd On-Ramp	1	60.2	24.3	C	60.5	23.1	C
Lake St Off-Ramp	1	57.5	29.8	D	57.4	27.9	C
Lake St On-Ramp	1	58.8	28.2	D	60.7	22.2	C
Horsethief Canyon Rd Off-Ramp	1	57.5	31.8	D	57.3	28.1	D
Horsethief Canyon Rd On-Ramp	1	56.6	31.9	D	59.4	26.6	C
Indian Truck Trail Off-Ramp	2	57.7	20.2	C	57.9	16.1	B
Indian Truck Trail On-Ramp (Major Merge)	2	-	-	D	-	-	D
Temescal Canyon Rd Off-Ramp	2	56.1	21.3	C	57.4	17.3	B
Temescal Canyon Rd On-Ramp	1	54.3	34.5	D	59.0	27.7	C
Weirick Rd Off-Ramp	2	57.0	21.4	C	56.7	18.1	B

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
CETAP (I-15 to I-215) Off-Ramp	1	57.9	33.2	D	58.0	29.0	D
Weirick Rd On-Ramp	1	54.6	31.0	D	56.5	26.0	C
Cajalco Rd On-Ramp	1	50.9	36.0	F	55.0	30.1	D
CETAP (I-15 to I-215) On-Ramp (Major Merge)	2	-	-	F	-	-	E
El Cerrito Rd On-Ramp	See Weave Analysis						
Ontario Ave Off-Ramp	See Weave Analysis						
Ontario Ave On-Ramp	1	#	86.7	F	13.6	49.5	F
Magnolia Ave Off-Ramp	2	52.6	69.9	F	53.7	37.8	F
Magnolia Ave EB On-Ramp	1	35.3	44.8	F	46.5	39.5	F
Magnolia Ave WB On-Ramp	See Weave Analysis						
SR-91 Off-Ramp	See Weave Analysis						
SR-91 WB On-Ramp	1	54.1	31.7	D	53.2	33.0	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	D	-	-	D
Hidden Valley Pkwy Off-Ramp	1	Lane Deletion					
Hidden Valley Pkwy On-Ramp	See Weave Analysis						
2 nd St Off-Ramp	See Weave Analysis						
2 nd St On-Ramp	1	54.5	31.4	D	51.7	35.2	F
6 th St Off-Ramp	2	53.3	25.1	F	53.6	25.4	F
6 th St On-Ramp	1	54.4	31.5	D	52.1	34.8	F
Schleisman Rd Off-Ramp	1	53.3	40.9	E	53.3	43.2	F
Schleisman Rd On-Ramp	1	52.6	34.0	D	51.2	35.7	F
Limonite Ave Off-Ramp	2	52.3	23.6	C	51.6	29.4	F
Limonite Ave On-Ramp	1	42.1	39.1	F	50.6	34.2	D
Cantu-Galleano Ranch Rd Off-Ramp	1	54.1	44.6	F	53.7	43.7	F
Cantu-Galleano Ranch Rd On-Ramp	1	53.3	31.6	D	50.8	34.1	F
SR-60 EB Off-Ramp	1	Lane Deletion					
SR-60 WB Off-Ramp	1	Lane Deletion					
SR-60 WB On-Ramp (Major Merge)	2	-	-	F	-	-	F
SR-60 EB On-Ramp (Major Merge)	2	-	-	F	-	-	F
I-15 Southbound							
SR-60 Off-Ramp	2	42.9	84.5	F	47.0	60.1	F
SR-60 EB On-Ramp	1	Lane Addition					
SR-60 WB On-Ramp	1	Lane Addition					
Cantu-Galleano Ranch Rd Off-Ramp (Major Diverge)	2	-	8.8	A	-	7.2	A
Cantu-Galleano Ranch Rd WB On-Ramp	1	52.6	34.2	F	51.9	35.2	F
Cantu-Galleano Ranch Rd EB On-Ramp	1	Lane Addition					
Limonite Ave Off-Ramp	2	53.0	35.5	F	51.4	36.3	F
Limonite Ave On-Ramp	1	23.6	44.3	F	45.2	37.3	F
Schleisman Rd Off-Ramp	1	53.6	56.4	F	53.4	45.8	F
Schleisman Rd On-Ramp	1	34.9	44.6	F	47.1	39.0	F
6 th St Off-Ramp	2	53.7	49.3	F	54.2	36.1	F

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
6 th St On-Ramp	1	41.9	42.1	F	45.2	40.3	F
2 nd St Off-Ramp	1	54.0	59.1	F	54.5	49.0	F
2 nd St On-Ramp		See Weave Analysis					
Hidden Valley Pkwy Off-Ramp		See Weave Analysis					
Hidden Valley Pkwy On-Ramp	1	Lane Addition					
SR-91 WB Off-Ramp (Major Diverge)	2	-	36.8	E	-	29.0	D
SR-91 EB Off-Ramp	1	52.5	38.0	E	54.7	31.3	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	E	-	-	E
SR-91 WB On-Ramp		See Weave Analysis					
Magnolia Ave Off-Ramp		See Weave Analysis					
Magnolia Ave On-Ramp	1	54.3	31.6	D	41.2	42.3	F
Ontario Ave Off-Ramp	1	51.9	47.9	F	53.0	68.4	F
Ontario Ave On-Ramp		See Weave Analysis					
El Cerrito Rd Off-Ramp		See Weave Analysis					
CETAP (I-15 to I-215) Off-Ramp	1	48.7	57.4	F	48.2	71.2	F
Cajalco Rd Off-Ramp	1	53.1	35.3	E	52.9	45.7	F
WB CETAP (I-15 to I-215) On-Ramp	1	57.1	23.4	C	54.0	32.2	D
Cajalco Rd On-Ramp	1	57.0	24.2	C	50.9	36.1	F
Weirick Rd Off-Ramp	2	56.4	16.2	B	55.8	32.4	F
Weirick Rd On-Ramp	1	60.6	22.3	C	55.8	33.2	D
Temescal Canyon Rd Off-Ramp	1	56.7	29.8	D	56.5	42.1	F
Temescal Canyon Rd On-Ramp (Major Merge)	2	-	-	C	-	-	E
Indian Truck Trail Off-Ramp	1	57.4	27.5	C	56.2	42.3	E
Indian Truck Trail On-Ramp	1	60.9	21.1	C	57.9	30.2	D
Horsethief Canyon Rd Off-Ramp	1	57.4	27.3	C	55.1	43.4	E
Horsethief Canyon Rd On-Ramp	1	60.9	21.2	C	59.2	27.6	C
Lake St Off-Ramp	1	56.2	29.2	D	56.2	37.1	E
Lake St On-Ramp	1	60.8	21.3	C	59.4	27.0	C
Nichols Rd Off-Ramp	1	57.3	25.8	C	56.8	34.6	D
Nichols Rd On-Ramp	1	61.2	19.1	B	59.6	26.3	C
SR-74 Off-Ramp (Major Diverge)	2	-	4.5	A	-	5.2	A
SR-74 On-Ramp	2	Lane Addition					
Main St Off-Ramp (Major Diverge)	2	-	0.9	A	-	6.0	A
Main St On-Ramp (Major Merge)	2	-	-	C	-	-	D
Franklin St Off-Ramp	1	57.0	26.9	C	56.7	33.9	D
Franklin St On-Ramp	1	60.6	22.2	C	60.0	24.9	C
Railroad Canyon Rd Off-Ramp (Major Diverge)	2	-	3.4	A	-	8.0	A
Railroad Canyon Rd On-Ramp	1	57.7	30.5	D	55.2	33.9	D
Olive St Off-Ramp	1	57.0	34.8	D	56.5	37.8	E
Olive St On-Ramp	1	58.9	28.1	D	57.8	30.5	D
Bundy Canyon Rd Off-Ramp	2	56.7	20.3	C	56.3	22.8	C

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Bundy Canyon Rd On-Ramp	1	56.3	32.4	D	56.2	32.5	D
Baxter Rd Off-Ramp	1	57.8	37.1	E	57.4	37.0	E
Baxter Rd On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	11.8	A	-	15.7	B
Clinton Keith Rd On-Ramp	1	53.7	35.1	E	57.6	30.5	D
California Oaks Rd Off-Ramp	2	56.2	25.7	C	56.2	22.8	C
California Oaks Rd WB On-Ramp	1	56.2	32.7	D	57.4	30.9	D
California Oaks Rd EB On-Ramp	1	Lane Addition					
Murrieta Hot Springs Rd Off-Ramp (Major Diverge)	2	-	11.9	B	-	13.8	B
Murrieta Hot Springs Rd WB On-Ramp	1	58.9	28.1	D	60.2	24.3	C
Murrieta Hot Springs Rd EB On-Ramp	1	58.0	30.0	D	59.1	27.5	C

Due to extremely oversaturated conditions, ramp segment speed cannot be determined.

5.5.1.3 Weaving Level of Service

Year 2040 Build Alternative 1 a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 5.5.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. Year 2040 Build Alternative 1 freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.5.1.1-1a, 5.5.1.1-1b, 5.5.1.1-1c, and 5.5.1.1-1d**. As **Table 5.5.1.3-1** indicates, all freeway weaving segments are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ El Cerrito Road On-Ramp to Ontario Avenue Off-Ramp (a.m. and p.m. peak hours);
- ◆ Magnolia Avenue Westbound On-Ramp to SR-91 Off-Ramp (a.m. and p.m. peak hours).

I-15 Southbound

- ◆ Ontario Avenue On-Ramp to El Cerrito Road Off-Ramp (p.m. peak hours).

Table 5.5.1.3-1 - Year 2040 Freeway Weaving Segment Peak Hour Level of Service - Build Alternative 1

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	52.8	60.3	F	55.0	45.8	F
Magnolia Ave WB On-Ramp to SR-91 Off-Ramp	5	40.6	66.0	F	43.0	55.5	F

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	55.8	36.5	E	51.8	37.5	E
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp/HOV Access/SR-91 HOT Connector	5	59.8	40.3	E	60.4	37.4	E
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	53.0	37.6	E	54.0	41.8	E
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp	5	60.6	36.0	E	57.1	49.6	F

5.5.1.4 HOV Segment Level of Service

Year 2040 Build Alternative 1 a.m. and p.m. peak hour levels of service for the study area freeway HOV segments are summarized in **Table 5.5.1.4-1**. The analysis for HOV segments were conducted based on previously discussed methodologies. As **Table 5.5.1.4-1** indicates, all the freeway HOV segments in the study area are projected to operate at satisfactory levels of service during both the a.m. and p.m. peak hours, with the following exceptions:

I-15 Northbound

- ◆ Baxter Road to Bundy Canyon Road (a.m. peak hour);
- ◆ Bundy Canyon Road to Olive Street (a.m. peak hour);
- ◆ Olive Street to Railroad Canyon Road (a.m. peak hour);
- ◆ Railroad Canyon Road to Franklin Street (a.m. peak hour);
- ◆ Franklin Street to Main Street (a.m. peak hour);
- ◆ Lake Street to Horsethief Canyon Road (a.m. peak hour);
- ◆ Horsethief Canyon to Indian Truck Trail (a.m. peak hour);
- ◆ Indian Truck Trail to Temescal Canyon Road (a.m. peak hour);
- ◆ Temescal Canyon Road to Weirick Road (a.m. peak hour);
- ◆ Weirick Road to Cajalco Road (a.m. peak hour);
- ◆ Cajalco Road to El Cerrito Road (a.m. peak hour);
- ◆ El Cerrito Road to Ontario Avenue (a.m. peak hour);
- ◆ Ontario Avenue to Magnolia Avenue (a.m. peak hour);
- ◆ Hidden Valley Parkway to 2nd Street (a.m. and p.m. peak hours);
- ◆ 2nd Street to 6th Street (a.m. and p.m. peak hours);
- ◆ 6th Street to Schleisman Road (a.m. and p.m. peak hours);
- ◆ Schleisman Road to Limonite Avenue (a.m. and p.m. peak hours);

- ◆ Limonite Avenue to Cantu-Galleano Ranch Road (a.m. and p.m. peak hours).

I-15 Southbound

- ◆ SR-60 to Cantu-Galleano Ranch Road (a.m. and p.m. peak hours);
- ◆ Cantu-Galleano Ranch Road to Limonite Avenue (a.m. and p.m. peak hours);
- ◆ Limonite Avenue to Schleisman Road (a.m. and p.m. peak hours);
- ◆ Schleisman Road to 6th Street (a.m. and p.m. peak hours);
- ◆ 6th Street to 2nd Street (a.m. and p.m. peak hours);
- ◆ 2nd Street to Hidden Valley Parkway (a.m. and p.m. peak hours);
- ◆ Magnolia Avenue to Ontario Avenue (p.m. peak hour);
- ◆ Ontario Avenue to El Cerrito Road (p.m. peak hour);
- ◆ El Cerrito Road to Cajalco Road (p.m. peak hour);
- ◆ Cajalco Road to Weirick Road (p.m. peak hour);
- ◆ Weirick Road to Temescal Canyon Road (p.m. peak hour);
- ◆ Temescal Canyon Road to Indian Truck Trail (p.m. peak hour);
- ◆ Indian Truck Trail to Horsethief Canyon Road (p.m. peak hour);
- ◆ Horsethief Canyon Road to Lake Street (p.m. peak hour);
- ◆ Lake Street to Nichols Road (p.m. peak hour);
- ◆ Nichols Road to Central Avenue (p.m. peak hour);
- ◆ Central Avenue to Main Street (p.m. peak hour);
- ◆ Main Street to Franklin Street (p.m. peak hour);
- ◆ Franklin Street to Railroad Canyon Road (p.m. peak hour);
- ◆ Railroad Canyon Road to Olive Street (p.m. peak hour);
- ◆ Olive Street to Bundy Canyon Road (p.m. peak hour).

Table 5.5.1.4-1 - Year 2040 Freeway HOV Segment Peak Hour Level of Service - Build Alternative 1

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
I-15 Northbound								
Murrieta Hot Springs Rd to California Oaks Rd	1	1600	1243	0.78	C	915	0.57	A
California Oaks Road to Clinton Keith Rd	1	1600	1503	0.94	E	1193	0.75	C
Clinton Keith Rd to Baxter Rd	1	1600	1503	0.94	E	1193	0.75	C
Baxter Rd to Bundy Canyon Rd	1	1600	1737	1.09	F	1332	0.83	D
Bundy Canyon Rd to Olive St	1	1600	1737	1.09	F	1332	0.83	D

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
Olive St to Railroad Canyon Rd	1	1600	1737	1.09	F	1332	0.83	D
Railroad Canyon Rd to Franklin St	1	1600	1737	1.09	F	1332	0.83	D
Franklin St to Main St	1	1600	1737	1.09	F	1332	0.83	D
Main St to Central Av	1	1600	1592	0.99	E	1193	0.75	C
Central Ave to Nichols Rd	1	1600	1592	0.99	E	1193	0.75	C
Nichols Rd to Lake St	1	1600	1532	0.96	E	1010	0.63	B
Lake St to Horsethief Canyon Rd	1	1600	1600	1.00	F	1089	0.68	B
Horsethief Canyon Rd to Indian Truck Trail	1	1600	1600	1.00	F	1089	0.68	B
Indian Truck Trail to Temescal Canyon Rd	1	1600	1847	1.15	F	1111	0.69	B
Temescal Canyon Rd to Weirick Rd	1	1600	2005	1.25	F	1144	0.71	C
Weirick Rd to Cajalco Rd	1	1600	2424	1.51	F	1242	0.78	C
Cajalco Rd to El Cerrito Rd	1	1600	2374	1.48	F	1292	0.81	D
El Cerrito Rd to Ontario Av	1	1600	2374	1.48	F	1292	0.81	D
Ontario Ave to Magnolia Av	1	1600	2310	1.44	F	1327	0.83	D
Magnolia Ave to SR-91	2	3200	3115	0.97	E	1340	0.42	A
SR-91 to Hidden Valley Pkwy	2	3200	2352	0.73	C	1567	0.49	A
Hidden Valley Pkwy to 2 nd St	1	1600	1948	1.22	F	2146	1.34	F
2 nd St to 6 th St	1	1600	1948	1.22	F	2146	1.34	F
6 th St to Schleisman Rd	1	1600	1701	1.06	F	2189	1.37	F
Schleisman Rd to Limonite Av	1	1600	1728	1.08	F	2078	1.30	F
Limonite Ave to Cantu-Galleano Ranch Rd	1	1600	1728	1.08	F	2078	1.30	F
Cantu-Galleano Ranch Rd to SR-60	-	-	-	-	-	-	-	-
I-15 Southbound								
SR-60 to Cantu-Galleano Ranch Rd	1	1600	2428	1.52	F	1606	1.00	F
Cantu-Galleano Ranch Rd to Limonite Av	1	1600	2448	1.53	F	1890	1.18	F
Limonite Ave to Schleisman Rd	1	1600	2448	1.53	F	1890	1.18	F
Schleisman Rd to 6 th St	1	1600	2591	1.62	F	1941	1.21	F
6 th St to 2 nd St	1	1600	2676	1.67	F	2176	1.36	F
2 nd St to Hidden Valley Parkway	1	1600	2676	1.67	F	2176	1.36	F
Hidden Valley Parkway to SR-91	2	3200	1554	0.49	A	2190	0.68	B
SR-91 to Magnolia Av	2	3200	2485	0.78	C	2845	0.89	D
Magnolia Ave to Ontario Av	1	1600	1413	0.88	D	1968	1.23	F
Ontario Ave to El Cerrito Rd	1	1600	1595	1.00	E	2246	1.40	F
El Cerrito Rd to Cajalco Rd	1	1600	1595	1.00	E	2246	1.40	F
Cajalco Rd to Weirick Rd	1	1600	1495	0.93	E	2186	1.37	F
Weirick Rd to Temescal Canyon Rd	1	1600	1380	0.86	D	2096	1.31	F
Temescal Canyon Rd to Indian Truck Tr	1	1600	1274	0.80	C	1990	1.24	F
Indian Truck Trail to Horsethief Canyon Rd	1	1600	1191	0.74	C	1708	1.07	F
Horsethief Canyon Rd to Lake St	1	1600	1191	0.74	C	1708	1.07	F
Lake St to Nichols Rd	1	1600	1217	0.76	C	1660	1.04	F
Nichols Rd to Central Av	1	1600	1170	0.73	C	1819	1.14	F

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
Central Ave to Main St	1	1600	1170	0.73	C	1819	1.14	F
Main St to Franklin St	1	1600	1364	0.85	D	1929	1.21	F
Franklin St to Railroad Canyon Rd	1	1600	1364	0.85	D	1929	1.21	F
Railroad Canyon Rd to Olive St	1	1600	1364	0.85	D	1929	1.21	F
Olive St to Bundy Canyon Rd	1	1600	1364	0.85	D	1929	1.21	F
Bundy Canyon Rd to Baxter Rd	1	1600	1254	0.78	C	1567	0.98	E
Baxter Rd to Clinton Keith Rd	1	1600	1254	0.78	C	1567	0.98	E
Clinton Keith Rd to California Oaks Rd	1	1600	972	0.61	B	1173	0.73	C
California Oaks Rd to Murrieta Hot Springs Rd	1	1600	972	0.61	B	1173	0.73	C

5.5.1.5 Ramp Metering Analysis

Ramp metering conditions were evaluated for each on-ramp throughout the study area on the I-15 corridor for year 2040 Build Alternative 1 conditions. The ramp metering analysis was performed based on previously defined methodologies. **Tables 5.5.1.5-1** and **5.5.1.5-2** present the year 2040 Build Alternative 1 a.m. and p.m. peak hour ramp metering analysis, respectively, and identify several ramps that are forecast to have insufficient storage to satisfy forecast demand.

- ◆ El Camino Avenue and Magnolia Avenue (a.m. and p.m. peak hours);
- ◆ Compton Avenue and Ontario Avenue (p.m. peak hour);
- ◆ State Street and Ontario Avenue (a.m. and p.m. peak hours);
- ◆ Crossroads Street and El Cerrito Road (p.m. peak hour);
- ◆ Bedford Canyon Road and El Cerrito Road (p.m. peak hour);
- ◆ I-15 Southbound Ramps and El Cerrito Road (a.m. and p.m. peak hours);
- ◆ Katy Way and El Cerrito Road (a.m. and p.m. peak hours);
- ◆ Bedford Canyon Road and Cajalco Road (a.m. and p.m. peak hours);
- ◆ Temescal Canyon Road and Cajalco Road (p.m. peak hour);
- ◆ Nob Hill Road/Knabe Road and Weirick Road (p.m. peak hour);
- ◆ Temescal Canyon Road and Horsethief Canyon Road (p.m. peak hour);
- ◆ Temescal Canyon Road and Lake Street (a.m. and p.m. peak hours);
- ◆ Flint Street and Main Street (p.m. peak hour);
- ◆ Summerhill Drive and Railroad Canyon Road (p.m. peak hour);
- ◆ Mission Trail and Olive Street (a.m. and p.m. peak hours);
- ◆ Grape Street and Olive Street (a.m. and p.m. peak hours);
- ◆ Cherry Street and Bundy Canyon Road (a.m. and p.m. peak hours);
- ◆ Hidden Springs Road and Clinton Keith Road (p.m. peak hour);
- ◆ Arya Drive and Clinton Keith Road (p.m. peak hour);
- ◆ Madison Avenue and Murrieta Hot Springs Road (p.m. peak hour).

Table 5.5.2.1-1 - Year 2040 Intersection Peak Hour Level of Service - Build Alternative 1

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	1.05	53.5	D	1.31	99.4	F
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.51	14.8	B	0.44	9.2	A
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.47	22.0	C	0.55	19.3	B
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	1.03	65.5	E	0.97	58.0	E
5	Hamner Avenue and Limonite Avenue	Signal	1.99	321.1	F	1.90	264.7	F
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.88	10.6	B	1.23	84.5	F

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
7	I-15 Southbound Ramps and Limonite Avenue	Signal	1.56	233.2	F	1.55	217.6	F
8	I-15 Northbound Ramps and Limonite Avenue	Signal	1.21	90.7	F	1.32	135.4	F
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	36.1	E	N/A	> 500	F
10	Pats Ranch Road and Limonite Avenue	Signal	0.88	17.6	B	1.11	52.4	D
11	Wineville Road and Limonite Avenue	Signal	1.46	147.7	F	1.66	203.0	F
12	Hamner Avenue and Schleisman Road	Signal	6.27	> 500	F	6.02	> 500	F
13	I-15 Southbound Ramps and Schleisman Road	Signal	0.93	24.2	C	0.82	19.7	B
14	I-15 Northbound Ramps and Schleisman Road	Signal	0.96	18.7	B	0.83	11.8	B
15	Future Road (East of I-15) and Schleisman Road	Signal	0.88	13.5	B	0.92	18.2	B
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	1.38	152.4	F	1.61	236.8	F
17	I-15 Southbound Ramps and 6 th Street	Signal	0.93	30.6	C	1.04	45.7	D
18	I-15 Northbound Ramps and 6 th Street	Signal	0.69	18.6	B	0.97	27.6	C
19	Sierra Avenue and 6 th Street	Signal	0.46	21.6	C	0.67	24.6	C
20	Hamner Avenue and 2 nd Street	Signal	1.03	52.0	D	1.04	70.9	E
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.78	19.6	B	0.75	19.0	B
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.93	38.6	D	1.13	92.1	F
23	Valley View Avenue and 2 nd Street	AWSC	N/A	41.4	E	N/A	18.4	C
24	Hamner Avenue and Hidden Valley Parkway	Signal	1.24	121.0	F	1.62	191.8	F
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.50	10.5	B	2.41	74.6	E
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.60	4.4	A	1.14	52.6	D
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.67	10.2	B	1.56	207.3	F
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.64	26.3	C	1.07	78.6	E
29	Garland Way and Hidden Valley Parkway	Signal	0.46	12.6	B	0.67	42.8	D
30	Rimpau Avenue and Magnolia Avenue	Signal	1.12	84.3	F	1.28	115.2	F

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
31	El Sobrante Road and Magnolia Avenue	Signal	0.67	30.7	C	0.94	35.1	D
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	0.94	30.8	C	1.01	31.4	C
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.83	21.8	C	0.74	12.7	B
34	El Camino Avenue and Magnolia Avenue	Signal	0.98	129.8	F	0.99	120.0	F
35	Compton Avenue and Ontario Avenue	Signal	0.86	11.8	B	1.15	63.3	E
36	I-15 Southbound Ramps and Ontario Avenue	Signal	0.93	17.1	B	0.90	18.8	B
37	I-15 Northbound Ramps and Ontario Avenue	Signal	0.89	26.4	C	0.91	33.7	C
38	State Street and Ontario Avenue	2WSC	N/A	> 500	F	N/A	> 500	F
39	Crossroads Street and Foothill Parkway	Signal	0.68	13.1	B	1.12	143.2	F
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	0.78	25.1	C	1.36	188.4	F
41	I-15 Southbound Ramps and El Cerrito Road	Signal	1.21	123.6	F	1.73	292.1	F
42	I-15 Northbound Ramps and El Cerrito Road	Signal	0.73	8.3	A	0.67	10.9	B
43	Katy Way and El Cerrito Road	AWSC	N/A	205.6	F	N/A	196.6	F
44	Bedford Canyon Road and Cajalco Road	Signal	1.33	110.8	F	1.31	106.3	F
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.66	20.5	C	0.85	25.1	C
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.63	13.2	B	0.56	10.5	B
47	Grand Oaks Road and Cajalco Road	Signal	0.42	5.9	A	0.53	9.6	A
48	Temescal Canyon Road and Cajalco Road	Signal	0.95	44.8	D	1.00	115.9	F
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.35	28.4	C	0.52	170.5	F
50	I-15 Southbound Ramps and Weirick Road	Signal	0.64	27.0	C	0.59	22.5	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.49	35.2	D	0.35	21.8	C
52	Temescal Canyon Road and Weirick Road	Signal	0.78	37.6	D	0.87	43.2	D
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.50	27.2	C	0.31	28.8	C
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.60	13.8	B	0.42	18.4	B

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	0.56	17.6	B	0.31	13.7	B
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.40	9.8	A	0.31	15.2	B
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.46	18.1	B	0.36	19.5	B
58	I-15 Southbound Ramps and Indian Truck Trail	Signal	0.21	22.0	C	0.33	15.0	B
59	I-15 Northbound Ramps and Indian Truck Trail	Signal	0.21	11.8	B	0.17	11.2	B
60	Temescal Canyon Road and Indian Truck Trail	Signal	0.56	18.7	B	0.31	27.6	C
61	De Palma Road and Horsethief Canyon Road	Signal	0.42	29.9	C	0.49	22.6	C
62	I-15 Southbound Ramps and Horsethief Canyon Road	Signal	0.34	27.7	C	0.92	35.8	D
63	I-15 Northbound Ramps and Horsethief Canyon Road	Signal	0.42	9.9	A	0.61	16.8	B
64	Temescal Canyon Road and Horsethief Canyon Road	Signal	0.92	41.1	D	2.14	396.4	F
65	Temescal Canyon Road and Lake Street	Signal	1.39	172.0	F	1.70	305.8	F
66	I-15 Southbound Ramps and Lake Street	Signal	0.59	28.8	C	0.48	28.5	C
67	I-15 Northbound Ramps and Lake Street	Signal	0.32	11.0	B	0.17	28.6	C
68	Walker Canyon Road and Lake Street	2WSC	N/A	0.5	A	N/A	2.2	A
69	Collier Avenue and Nichols Road	1WSC	N/A	5.3	A	N/A	10.1	B
70	I-15 Southbound Ramps and Nichols Road	Signal	0.20	15.5	B	0.34	20.1	C
71	I-15 Northbound Ramps and Nichols Road	Signal	0.25	25.1	C	0.23	21.0	C
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.70	28.0	C	0.79	30.5	C
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	0.48	8.8	A	0.77	12.5	B
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.49	9.4	A	0.62	11.7	B
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.51	23.0	C	0.63	23.6	C
76	Flint Street and Main Street	2WSC	N/A	30.1	D	N/A	> 500	F
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	4.0	A	N/A	10.5	B
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	26.5	D	N/A	6.3	A

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
79	Camino Del Norte and Main Street	1WSC	N/A	3.7	A	N/A	21.7	C
80	Auto Center Drive and Franklin Street	Signal	0.51	14.3	B	0.41	13.5	B
81	I-15 Southbound Ramps and Franklin Street	Signal	0.50	16.3	B	0.57	22.3	C
82	I-15 Northbound Ramps and Franklin Street	Signal	0.29	21.6	C	0.50	18.2	B
83	Canyon Estates Drive and Franklin Street	Signal	0.93	23.3	C	1.01	27.6	C
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	0.51	29.0	C	0.74	33.2	C
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.19	23.6	C	0.23	28.3	C
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.36	6.4	A	0.42	11.6	B
87	Summerhill Drive and Railroad Canyon Road	Signal	0.83	41.6	D	1.13	73.7	E
88	Mission Trail and Olive Street	Signal	1.23	134.1	F	1.16	97.3	F
89	I-15 Southbound Ramps and Olive Street	Signal	0.64	6.9	A	0.68	11.5	B
90	I-15 Northbound Ramps and Olive Street	Signal	0.66	11.0	B	0.61	15.5	B
91	Grape Street and Olive Street	Signal	1.29	77.1	E	1.22	58.0	E
92	Orange Street and Bundy Canyon Road	Signal	0.80	25.8	C	0.68	18.7	B
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.87	27.8	C	0.89	25.5	C
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.83	22.0	C	0.91	28.8	C
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	> 500	F	N/A	> 500	F
96	Central Street and Baxter Road	Signal	0.43	15.7	B	0.62	17.0	B
97	I-15 Southbound Ramps and Baxter Road	Signal	0.23	20.2	C	0.30	12.5	B
98	I-15 Northbound Ramps and Baxter Road	Signal	0.41	23.8	C	0.55	24.8	C
99	Monte Vista Drive and Baxter Road	1WSC	N/A	13.5	B	N/A	29.3	D
100	Hidden Springs Road and Clinton Keith Road	Signal	0.85	29.1	C	1.14	60.9	E
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.88	24.5	C	0.87	23.2	C
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.86	19.6	B	0.90	29.8	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
103	Arya Drive and Clinton Keith Road	Signal	0.97	27.8	C	1.17	69.1	E
104	I-15 Southbound Ramp / Madison Avenue and Kalmia Street	Signal	0.53	27.1	C	0.74	33.0	C
105	I-15 Southbound Ramps and Kalmia Street	No conflicting movements						
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.48	16.3	B	0.70	14.2	B
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.47	16.2	B	0.78	24.0	C
108	Monroe Avenue and California Oaks Road	Signal	0.52	19.8	B	0.71	28.8	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.49	30.1	C	1.03	67.4	E
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.58	16.3	B	0.75	16.8	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.47	3.6	A	0.59	5.7	A
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	1.7	A	N/A	21.4	C
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.60	22.4	C	0.75	20.2	C

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control 2WSC - Two-Way Stop Control AWSC - All-Way Stop Control

5.5.2.2 Queuing Analysis

A queuing analysis using the previously described methodologies was conducted to determine the queue lengths at the freeway ramp intersections under year 2040 Build Alternative 1 conditions. The results of the queuing analysis are summarized in **Table 5.5.2.2-1**. As can be seen from **Table 5.5.2.2-1**, the 95th percentile queue lengths of several turning movements are forecast to exceed the maximum available storage length during the a.m. or p.m. peak hour. Detailed queuing reports are included in **Appendix L**.

A closer look at the northbound and southbound off-ramp queues reveals that none of the queues are projected to back up to the freeway. Some of the turning movement queues at Limonite Avenue Southbound Off-Ramp, Limonite Avenue Northbound Off-Ramp, 2nd Street Southbound Off-Ramp, Hidden Valley Northbound Off-Ramp, Bundy Canyon Northbound Off-Ramp, Central Avenue Northbound Off-Ramp, and Kalmia Street Northbound Off-Ramp are more than the available storage length for those particular movements. However, the length of these off-ramps is enough to accommodate the spillover from the turning movement queues.

- ◆ Franklin Street Off-Ramp to Franklin Street On-Ramp (p.m. peak hour);
- ◆ Railroad Canyon Road Off-Ramp to Railroad Canyon Road On-Ramp (p.m. peak hour);
- ◆ Railroad Canyon Road On-Ramp to Olive Street Off-Ramp (p.m. peak hour);
- ◆ Olive St On-ramp to Bundy Canyon Road Off-Ramp (p.m. peak hour);
- ◆ Bundy Canyon Road On-Ramp to Baxter Road Off-Ramp (p.m. peak hour);
- ◆ Baxter Road Off-Ramp to Baxter Road On-Ramp (p.m. peak hour);
- ◆ Clinton Keith Road On-Ramp to HOV Connector (a.m. peak hour);
- ◆ HOV Access to California Oaks Road Off-Ramp (a.m. peak hour).

Table 5.6.1.1-1 - Year 2040 Freeway Mainline Peak Hour Level of Service - Build Alternative 2

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
I-215 Diverge (/HOV Access) to Murrieta Hot Springs Rd Off-Ramp	3	66.2	24.3	C	61.8	32.9	D
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd EB On-Ramp	3	66.4	22.9	C	64.1	29.5	D
Murrieta Hot Springs Rd EB On-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	65.9	25.6	C	60.6	34.5	D
Murrieta Hot Springs Rd WB On-Ramp to California Oaks Rd Off-Ramp	4	67.9	21.9	C	64.6	30.0	D
California Oaks Rd Off-Ramp to California Oaks Rd EB On-Ramp	3	65.9	25.5	C	59.2	36.4	E
California Oaks Rd EB On-Ramp to California Oaks Rd WB On-Ramp	3	65.5	26.7	D	55.5	41.1	E
California Oaks Rd WB On-Ramp to HOV Access	4	68.0	20.2	C	66.3	27.1	D
HOV Access to Clinton Keith Rd Off-Ramp	4	68.0	19.5	C	66.6	26.5	D
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	66.5	22.5	C	63.8	30.0	D
Clinton Keith Rd On-Ramp to Baxter Rd Off-Ramp	4	67.9	21.7	C	66.4	27.0	D
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	4	68.0	20.7	C	67.3	24.8	C
Baxter Rd On-Ramp to Bundy Canyon Rd Off-Ramp	4	68.0	20.4	C	67.2	25.0	C
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	66.3	23.7	C	63.9	29.8	D
Bundy Canyon Rd On-Ramp to Olive St Off-Ramp	3	65.7	26.3	D	61.5	33.7	D
Olive St Off-Ramp to Olive St On-Ramp	3	66.0	25.2	C	62.9	31.4	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Olive St On-Ramp to Railroad Canyon Rd Off-Ramp	3	63.7	30.2	D	58.9	36.7	E
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	64.7	28.4	D	62.9	31.4	D
Railroad Canyon Rd On-Ramp to Franklin St Off-Ramp	3	60.2	35.1	E	57.9	38.1	E
Franklin St Off-Ramp to Franklin St On-Ramp	3	61.2	33.7	D	60.7	34.4	D
Franklin St On-Ramp to Main St Off-Ramp	3	54.1	42.9	E	57.2	39.0	E
Main St Off-Ramp to Main St On-Ramp/HOV Egress (End)	3	58.6	37.1	E	60.6	34.6	D
Main St On-Ramp/HOV Egress (End) to SR-74 Off-Ramp/HOT Ingress (Begin)	5	68.4	24.7	C	69.3	21.9	C
SR-74 Off-Ramp/HOT Ingress (Begin) to SR-74 EB On-Ramp	4	67.4	24.4	C	68.0	20.9	C
SR-74 EB On-Ramp to SR-74 WB On-Ramp	4	66.5	26.7	D	67.9	21.8	C
SR-74 WB On-Ramp to Nichols Rd Off-Ramp/HOT Ingress	4	67.6	25.0	C	68.4	21.9	C
Nichols Rd Off-Ramp/HOT Ingress to Nichols Rd On-Ramp	4	67.9	24.3	C	68.4	21.3	C
Nichols Rd On-Ramp to Lake St Off-Ramp	4	67.4	25.6	C	68.3	22.4	C
Lake St Off-Ramp to Lake St On-Ramp	4	67.8	24.5	C	68.5	21.0	C
Lake St On-Ramp to Horsethief Canyon Rd Off-Ramp	4	66.3	27.7	D	68.4	21.8	C
Horsethief Canyon Rd Off-Ramp to Horsethief Canyon Rd On-Ramp	4	66.8	26.8	D	68.5	20.7	C
Horsethief Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	4	63.5	31.8	D	68.0	23.7	C
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	64.0	31.1	D	68.1	23.5	C
Indian Truck Trail On-Ramp to Temescal Canyon Rd Off-Ramp/HOT Ingress	4	61.1	34.9	D	67.5	25.4	C
Temescal Canyon Rd Off-Ramp/HOT Ingress to Temescal Canyon Rd On-Ramp	4	64.7	30.2	D	67.9	24.3	C
Temescal Canyon Rd On-Ramp to HOT Egress	4	62.9	32.6	D	67.7	24.7	C
HOT Egress to Weirick Rd Off-Ramp	4	62.0	33.7	D	67.5	25.3	C
Weirick Rd Off-Ramp to CETAP (I-15 to I-215) Off-Ramp	4	64.5	30.5	D	67.9	24.3	C
CETAP (I-15 to I-215) Off-Ramp to Weirick Rd On-Ramp	4	61.1	31.9	D	63.4	25.9	C
Weirick Rd On-Ramp to Cajalco Rd On-Ramp	4	59.2	35.0	D	63.0	27.6	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Cajalco Rd On-Ramp to CETAP (I-15 to I-215) On-Ramp	4	-	>45	F	61.1	32.0	D
CETAP (I-15 to I-215) On-Ramp to HOT Ingress	6	-	>45	F	62.3	29.9	D
HOT Ingress to El Cerrito Rd On-Ramp	6	55.8	39.8	E	63.3	27.0	D
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	See Weaving Analysis					
Ontario Ave Off-Ramp to Ontario Ave On-Ramp/HOT Egress	5	-	>45	F	60.0	33.9	D
Ontario Ave On-Ramp/HOT Egress to Corridor A Off-Ramp	7	53.3	43.1	E	62.5	29.5	D
Corridor A On-Ramp to Magnolia Ave Off-Ramp	7	60.7	32.8	D	63.7	23.0	C
Magnolia Ave Off-Ramp to Lane Deletion	6	58.5	36.1	E	63.7	24.9	C
Lane Deletion to Magnolia Ave Loop On-Ramp	5	-	>45	F	61.9	30.7	D
Magnolia Ave Loop On-Ramp to Magnolia Ave On-Ramp	6	56.1	39.3	E	63.2	27.6	D
Magnolia Ave On-Ramp to SR-91 Off-Ramp	7	See Weaving Analysis					
SR-91 Off-Ramp to Lane Deletion	5	63.7	23.0	C	63.7	19.3	C
Lane Deletion to SR-91 WB On-Ramp	4	61.4	29.8	D	62.2	24.7	C
SR-91 WB On-Ramp to SR-91 EB On-Ramp	5	63.5	26.4	D	63.7	23.8	C
SR-91 EB On-Ramp to Corridor A Off-Ramp	5	62.5	30.1	D	63.9	26.3	D
Corridor A On-Ramp to Hidden Valley Pkwy Off-Ramp	5	59.8	34.5	D	62.8	29.6	D
Hidden Valley Pkwy Off-Ramp to HOT Egress	4	51.7	45.0	E	59.3	34.2	D
HOT Egress to Hidden Valley Pkwy On-Ramp	5	62.7	29.7	D	64.1	25.4	C
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	See Weaving Analysis					
2 nd St Off-Ramp to Lane Deletion	5	63.3	28.3	D	62.9	29.3	D
Lane Deletion to 2 nd St On-Ramp	4	54.6	41.0	E	52.5	43.9	E
HOT Ingress to 6 th St Off-Ramp	5	64.0	25.7	C	63.2	28.5	D
6 th St Off-Ramp to 6 th St On-Ramp	4	61.7	29.9	D	58.6	35.3	E
6 th St On-Ramp to Schleisman Rd Off-Ramp	4	60.6	32.2	D	54.0	41.8	E

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	4	62.4	27.7	D	59.3	34.4	D
Schleisman Rd On-Ramp to Limonite Ave Off-Ramp	4	60.2	32.9	D	54.5	41.1	E
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	62.6	26.5	D	61.7	29.9	D
Limonite Ave On-Ramp to Cantu-Galleano Ranch Rd Off-Ramp	4	55.5	39.7	E	56.0	39.1	E
Cantu-Galleano Ranch Rd Off-Ramp to HOT Egress	4	58.7	35.3	E	59.8	33.6	D
HOT Egress to Cantu-Galleano Ranch Rd On-Ramp	5	63.2	28.6	D	63.4	28.1	D
Cantu-Galleano Ranch Rd On to SR-60 EB Off-Ramp/HOT Egress	5	61.7	31.6	D	60.6	33.3	D
SR-60 EB Off-Ramp/HOT Egress (End) to Lane Deletion	5	61.4	32.1	D	59.4	35.1	E
Lane Deletion to SR-60 WB Off-Ramp	4	-	>45	F	-	>45	F
SR-60 WB Off-Ramp to SR-60 WB On-Ramp	3	-	>45	F	-	>45	F
SR-60 WB On-Ramp to SR-60 EB On-Ramp	4	-	>45	F	-	>45	F
North of SR-60 EB On-Ramp	5	-	>45	F	-	>45	F
I-15 Southbound							
North of SR-60 Off-Ramp	4	-	>45	F	-	>45	F
SR-60 Off-Ramp to HOT Ingress (Begin)	3	-	>45	F	-	>45	F
HOT Ingress (Begin) to SR-60 EB On-Ramp	3	-	>45	F	-	>45	F
SR-60 EB On-Ramp to SR-60 WB On-Ramp	4	-	>45	F	56.2	38.8	E
SR-60 WB On-Ramp to Lane Addition	5	59.4	35.0	E	60.5	33.4	D
Lane Addition to Cantu-Galleano Ranch Rd Off-Ramp	6	63.7	27.2	D	63.9	26.4	D
Cantu-Galleano Ranch Rd Off-Ramp to HOT Ingress	5	62.5	30.0	D	62.8	29.6	D
HOT Ingress to Cantu-Galleano Ranch Rd WB On-Ramp	4	57.9	36.3	E	58.6	35.4	E
Cantu-Galleano Ranch Rd WB On-Ramp to Cantu-Galleano Ranch Rd EB On-Ramp	5	63.2	28.7	D	63.4	28.1	D
Cantu-Galleano Ranch Rd EB On-Ramp to Lane Deletion	5	61.4	32.1	D	62.1	30.8	D
Lane Deletion to Limonite Ave Off-Ramp	4	-	>45	F	-	>45	F

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Limonite Ave Off-Ramp to Limonite Ave On-Ramp	4	55.8	39.3	E	60.6	32.2	D
Limonite Ave On-Ramp to Schleisman Rd Off-Ramp	4	-	>45	F	51.9	44.7	E
Schleisman Rd Off-Ramp to Schleisman Rd On-Ramp	4	-	>45	F	57.8	36.6	E
Schleisman Rd On-Ramp to 6 th St Off-Ramp	4	-	>45	F	-	>45	F
6 th St Off-Ramp to 6 th St On-Ramp	4	-	>45	F	53.7	42.2	E
6 th St On-Ramp/HOT Egress to 2 nd St Off-Ramp	5	-	>45	F	59.4	35.1	E
2 nd St Off-Ramp to 2 nd St On-Ramp	4	-	>45	F	-	>45	F
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp	4	See Weaving Analysis					
Hidden Valley Pkwy Off-Ramp to HOT Ingress	4	-	>45	F	-	>45	F
HOT Ingress to Hidden Valley Pkwy On-Ramp	4	-	>45	F	-	>45	F
Hidden Valley Pkwy On-Ramp to Corridor A Off-Ramp	5	-	>45	F	-	>45	F
Corridor A On-Ramp to SR-91WB Off-Ramp	5	53.3	43.3	E	58.9	35.8	E
SR-91 WB Off-Ramp to SR-91 EB Off-Ramp	4	60.7	31.9	D	61.7	29.8	D
SR-91 EB Off-Ramp to SR-91 EB On-Ramp	4	62.7	24.3	C	62.6	26.6	D
SR-91 EB On-Ramp to SR-91 WB On-Ramp	5	64.0	26.1	D	63.6	27.7	D
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	See Weaving Analysis					
Magnolia Ave Off-Ramp to Magnolia Ave On-Ramp	5	63.5	26.1	D	60.5	33.1	D
Magnolia Ave On-Ramp to Corridor A Off-Ramp	6	63.7	23.4	C	62.2	30.2	D
Corridor A On-Ramp to Ontario Ave Off-Ramp/HOT Ingress	6	62.7	29.1	D	55.8	39.7	E
Ontario Ave Off-Ramp/HOT Ingress to Ontario Ave On-Ramp	5	63.6	25.3	C	54.1	42.0	E
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp/HOT Egress	5	See Weaving Analysis					
El Cerrito Rd Off-Ramp/HOT Egress to CETAP (I-15 to I-215) Off-Ramp	6	63.4	26.6	D	56.6	38.6	E
CETAP (I-15 to I-215) Off-Ramp to Cajalco Rd Off-Ramp	5	63.7	22.1	C	61.0	32.4	D
Cajalco Rd Off-Ramp to CETAP (I-15 to I-215) WB On-Ramp	5	63.7	19.0	C	63.1	27.8	D

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
CETAP (I-15 to I-215) WB On-Ramp to Cajalco Rd On-Ramp	5	63.7	19.7	C	62.6	29.2	D
Cajalco Rd On-Ramp to Weirick Rd Off-Ramp	5	70.0	18.7	C	65.1	30.5	D
Weirick Rd Off-Ramp to Weirick Rd On-Ramp	4	68.5	21.0	C	58.3	38.2	E
Weirick Rd On-Ramp to HOT Ingress	4	68.4	21.9	C	58.3	38.2	E
HOT Ingress to Temescal Canyon Rd Off-Ramp	4	68.4	21.4	C	56.1	41.0	E
Temescal Canyon Rd Off-Ramp to Temescal Canyon Rd On-Ramp	4	68.5	19.7	C	60.8	35.2	E
Temescal Canyon Rd On-Ramp to Indian Truck Trail Off-Ramp	4	68.5	20.1	C	55.7	41.5	E
Indian Truck Trail Off-Ramp to Indian Truck Trail On-Ramp	4	68.5	19.2	C	59.9	36.4	E
Indian Truck Trail On-Ramp to Horsethief Canyon Rd Off-Ramp	4	68.5	19.6	C	59.1	37.2	E
Horsethief Canyon Rd Off-Ramp to Horsethief Canyon Rd On-Ramp	4	68.5	18.7	C	64.9	29.9	D
Horsethief Canyon Rd On-Ramp to Lake St Off-Ramp	4	68.5	19.3	C	64.5	30.4	D
Lake St Off-Ramp to Lake St On-Ramp	4	68.5	16.6	B	66.8	26.8	D
Lake St On-Ramp to Nichols Rd Off-Ramp	4	68.5	18.9	C	66.1	28.1	D
Nichols Rd Off-Ramp to Nichols Rd On-Ramp	4	68.5	17.8	B	67.0	26.4	D
Nichols Rd On-Ramp to HOT Egress	4	68.5	18.1	C	66.5	27.3	D
HOT Egress to SR-74 Off-Ramp	5	70.0	14.5	B	69.6	22.3	C
SR-74 Off-Ramp to SR-74 On-Ramp/HOT Egress (End)	5	70.0	12.3	B	70.0	19.2	C
SR-74 On-Ramp/HOT Egress (End) to Main St Off-Ramp/HOV Ingress	5	69.5	16.7	B	69.1	22.9	C
Main St Off-Ramp/HOV Ingress to Main St On-Ramp	3	63.9	29.8	D	-	>45	F
Main St On-Ramp to Franklin St Off-Ramp	4	67.9	21.9	C	65.2	29.1	D
Franklin St Off-Ramp to Franklin St On-Ramp	3	64.7	28.5	D	53.7	43.4	E
Franklin St On-Ramp to Railroad Canyon Rd Off-Ramp	4	67.9	21.8	C	66.1	27.5	D
Railroad Canyon Rd Off-Ramp to Railroad Canyon Rd On-Ramp	3	64.5	28.8	D	59.0	36.7	E
Railroad Canyon Rd On-Ramp to Olive St Off-Ramp	3	62.5	32.0	D	55.1	41.6	E

Freeway Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Olive St Off-Ramp to Olive St On-Ramp	3	64.5	28.8	D	60.7	34.4	D
Olive St On-Ramp to Bundy Canyon Rd Off-Ramp	3	64.2	29.4	D	60.1	35.2	E
Bundy Canyon Rd Off-Ramp to Bundy Canyon Rd On-Ramp	3	65.8	26.1	D	64.1	29.4	D
Bundy Canyon Rd On-Ramp to Baxter Rd Off-Ramp	3	62.2	32.3	D	57.7	38.3	E
Baxter Rd Off-Ramp to Baxter Rd On-Ramp	3	62.7	31.6	D	59.8	35.5	E
Baxter Rd On-Ramp to Clinton Keith Rd Off-Ramp	4	67.6	23.6	C	67.1	25.3	C
Clinton Keith Rd Off-Ramp to Clinton Keith Rd On-Ramp	3	65.9	25.6	C	66.0	25.1	C
Clinton Keith Rd On-Ramp to HOV Access	3	60.1	35.2	E	63.8	30.1	D
HOV Access to California Oaks Rd Off-Ramp	3	59.1	36.5	E	63.1	31.1	D
California Oaks Rd Off-Ramp to California Oaks Rd WB On-Ramp	3	63.6	30.3	D	65.6	26.5	D
California Oaks Rd WB On-Ramp to California Oaks Rd EB On-Ramp	3	61.1	33.9	D	63.7	30.2	D
California Oaks Rd EB On-Ramp to Murrieta Hot Springs Rd Off-Ramp	4	67.4	24.5	C	67.8	22.5	C
Murrieta Hot Springs Rd Off-Ramp to Murrieta Hot Springs Rd WB On-Ramp	3	65.5	26.8	D	66.4	23.0	C
Murrieta Hot Springs Rd WB On-Ramp to Murrieta Hot Springs Rd EB On-Ramp/HOV Egress (End)	3	65.1	27.7	D	66.4	23.4	C
Murrieta Hot Springs Rd EB On-Ramp/HOV Egress (End) to I-215 On-Ramp	3	63.9	29.8	D	65.9	25.6	C

5.6.1.2 Ramp Level of Service

Year 2040 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area interchange ramp influence areas are summarized in **Table 5.6.1.2-1**. The freeway ramp LOS calculation sheets are included in **Appendix D**. Year 2040 Build Alternative 2 freeway ramp levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.6.1.1-1a, 5.6.1.1-1b, 5.6.1.1-1c, and 5.6.1.1-1d**. As **Table 5.6.1.2-1** indicates, all freeway ramp junctions are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ Murrieta Hot Springs Road On-Ramp (p.m. peak hour);
- ◆ Olive Street Off-Ramp (p.m. peak hour);
- ◆ Franklin Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Franklin Street On-Ramp (a.m. peak hour);

- ◆ Main Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Temescal Canyon Road Off-Ramp (a.m. peak hour);
- ◆ SR-60 Eastbound Off-Ramp (a.m. peak hour)
- ◆ SR-60 Westbound On-Ramp (a.m. and p.m. peak hours);
- ◆ SR-60 Eastbound On-Ramp (a.m. and p.m. peak hours).

I-15 Southbound

- ◆ SR-60 Off-Ramp (a.m. and p.m. peak hours);
- ◆ Limonite Avenue Off-Ramp (a.m. and p.m. peak hours);
- ◆ Limonite Avenue On-Ramp (a.m. peak hour);
- ◆ Schleisman Road Off-Ramp (a.m. peak hour);
- ◆ Schleisman Road On-Ramp (a.m. and p.m. peak hours);
- ◆ 6th Street Off-Ramp (a.m. and p.m. peak hours);
- ◆ Temescal Canyon Road Off-Ramp (p.m. peak hour);
- ◆ Horsethief Canyon Road Off-Ramp (p.m. peak hour);
- ◆ Lake Street Off-Ramp (p.m. peak hour);
- ◆ Olive Street Off-Ramp (p.m. peak hour);
- ◆ Baxter Road Off-Ramp (a.m. and p.m. peak hours).

Table 5.6.1.2-1 - Year 2040 Freeway Ramp Peak Hour Level of Service - Build Alternative 2

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
Murrieta Hot Springs Rd Off-Ramp	1	57.3	29.9	D	56.9	36.5	E
Murrieta Hot Springs Rd EB On-Ramp	1	59.5	26.5	C	55.3	33.8	D
Murrieta Hot Springs Rd WB On-Ramp	1	Lane Addition					
California Oaks Rd Off-Ramp	1	Lane Deletion					
California Oaks Rd EB On-Ramp	1	59.5	26.6	C	54.7	34.5	D
California Oaks Rd WB On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	7.2	A	-	11.6	B
Clinton Keith Rd On-Ramp	1	Lane Addition					
Baxter Rd Off-Ramp	1	57.3	26.4	C	56.8	32.1	D
Baxter Rd On-Ramp	1	61.1	19.8	B	60.2	24.1	C
Bundy Canyon Rd Off-Ramp (Major Diverge)	2	-	7.2	A	-	10.5	B
Bundy Canyon Rd On-Ramp	1	59.3	27.0	C	56.9	31.7	D
Olive St Off-Ramp	1	57.5	31.3	D	57.3	35.5	E
Olive St On-Ramp	1	57.5	30.6	D	55.7	33.3	D

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Railroad Canyon Rd Off-Ramp	1	57.4	22.5	C	56.6	24.8	C
Railroad Canyon Rd On-Ramp	1	56.4	28.7	D	55.4	29.7	D
Franklin St Off-Ramp	1	57.7	41.0	E	57.2	40.8	E
Franklin St On-Ramp	1	52.8	36.1	E	55.4	33.8	D
Main St Off-Ramp	1	56.9	40.7	E	57.0	37.4	E
Main St On-Ramp (Major Merge)	2	-	-	C	-	-	C
SR-74 Off-Ramp (Major Diverge)	2	-	6.5	A	-	10.4	B
SR-74 EB On-Ramp	1	59.6	26.1	C	60.9	21.1	C
SR-74 WB On-Ramp	1	59.1	27.5	C	60.2	24.0	C
Nichols Rd Off-Ramp/HOT Ingress	1	57.6	29.2	D	57.7	26.1	C
Nichols Rd On-Ramp	1	60.1	24.5	C	60.5	22.9	C
Lake St Off-Ramp	1	57.4	30.0	D	57.1	28.8	D
Lake St On-Ramp	1	59.0	27.6	C	60.7	22.1	C
Horsethief Canyon Rd Off-Ramp	1	57.5	31.5	D	57.3	27.8	C
Horsethief Canyon Rd On-Ramp	1	57.4	30.8	D	59.6	26.1	C
Indian Truck Trail Off-Ramp	1	57.7	33.8	D	57.9	28.5	D
Indian Truck Trail On-Ramp (Major Merge)	2	-	-	D	-	-	C
Temescal Canyon Rd Off-Ramp	1	56.2	38.3	E	57.4	31.0	D
Temescal Canyon Rd On-Ramp (Major Merge)	2	-	-	D	-	-	C
Weirick Rd Off-Ramp	2	56.7	21.3	C	56.7	16.0	B
CETAP (I-15 to I-215) Off-Ramp	1	55.1	28.5	D	55.1	23.6	C
Weirick Rd On-Ramp	1	55.3	29.5	D	56.7	25.1	C
Cajalco Rd On-Ramp	1	52.0	34.6	D	55.7	28.5	D
CETAP (I-15 to I-215) On-Ramp	2	Lane Addition					
El Cerrito Rd On-Ramp	See Weave Analysis						
Ontario Ave Off-Ramp	See Weave Analysis						
Ontario Ave On-Ramp	1	Lane Addition					
Magnolia Ave Off-Ramp (Major Diverge)	2	-	11.2	B	-	6.5	A
Magnolia Ave Loop On-Ramp	1	Lane Addition					
Magnolia Ave On-Ramp	See Weave Analysis						
SR-91 Off-Ramp	See Weave Analysis						
SR-91 WB On-Ramp	1	53.8	32.3	D	54.2	31.4	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	D	-	-	D
Hidden Valley Pkwy Off-Ramp	1	Lane Deletion					
Hidden Valley Pkwy On-Ramp	See Weave Analysis						
2 nd St Off-Ramp	See Weave Analysis						
2 nd St On-Ramp	1	Lane Addition					
6 th St Off-Ramp (Major Diverge)	2	-	7.5	A	-	6.4	A
6 th St On-Ramp	1	56.0	27.8	C	53.4	33.0	D
Schleisman Rd Off-Ramp	1	53.3	36.5	E	53.3	41.1	E
Schleisman Rd On-Ramp	1	54.7	30.6	D	53.3	33.1	D
Limonite Ave Off-Ramp	2	52.5	19.8	B	51.9	23.4	C

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Limonite Ave On-Ramp	1	47.9	35.9	E	52.4	32.3	D
Cantu-Galleano Ranch Rd Off-Ramp	1	54.0	38.7	E	53.7	39.3	E
Cantu-Galleano Ranch Rd On-Ramp	1	56.7	24.8	C	55.4	27.9	C
SR-60 EB Off-Ramp	1	50.6	42.9	F	51.9	40.8	E
SR-60 WB Off-Ramp	1	Lane Deletion					
SR-60 WB On-Ramp (Major Merge)	2	-	-	F	-	-	F
SR-60 EB On-Ramp (Major Merge)	2	-	-	F	-	-	F
I-15 Southbound							
SR-60 Off-Ramp	2	43.1	78.2	F	47.0	55.5	F
SR-60 EB On-Ramp	1	Lane Addition					
SR-60 WB On-Ramp	1	Lane Addition					
Cantu-Galleano Ranch Rd Off-Ramp	1	Lane Deletion					
Cantu-Galleano Ranch Rd WB On-Ramp	1	Lane Addition					
Cantu-Galleano Ranch Rd EB On-Ramp	1	55.9	27.9	C	56.3	26.7	C
Limonite Ave Off-Ramp	2	53.0	30.8	F	51.5	28.5	F
Limonite Ave On-Ramp	1	34.2	42.1	F	50.2	34.4	D
Schleisman Rd Off-Ramp	1	53.8	50.3	F	53.4	41.8	E
Schleisman Rd On-Ramp	1	39.1	43.1	F	50.7	36.1	F
6 th St Off-Ramp	2	53.8	45.1	F	54.2	25.4	F
6 th St On-Ramp/HOT Egress	1	Lane Addition					
2 nd St Off-Ramp (Major Diverge)	2	-	4.9	A	-	2.9	A
2 nd St On-Ramp	See Weave Analysis						
Hidden Valley Pkwy Off-Ramp	See Weave Analysis						
Hidden Valley Pkwy On-Ramp	1	Lane Addition					
SR-91 WB Off-Ramp (Major Diverge)	2	-	33.2	D	-	27.8	C
SR-91 EB Off-Ramp	1	51.7	40.1	E	53.7	34.0	D
SR-91 EB On-Ramp (Major Merge)	2	-	-	D	-	-	D
SR-91 WB On-Ramp	See Weave Analysis						
Magnolia Ave Off-Ramp	See Weave Analysis						
Magnolia Ave On-Ramp	1	Lane Addition					
Ontario Ave Off-Ramp/HOT Ingress	1	Lane Deletion					
Ontario Ave On-Ramp	See Weave Analysis						
El Cerrito Rd Off-Ramp	See Weave Analysis						
WB CETAP (I-15 to I-215) On-Ramp	1	57.9	17.8	B	57.0	24.0	C
Cajalco Rd On-Ramp	1	57.8	18.5	B	55.8	28.2	D
Weirick Rd Off-Ramp (Major Diverge)	2	-	5.8	A	-	7.2	A
Weirick Rd On-Ramp	1	61.0	20.6	C	57.1	31.6	D
Temescal Canyon Rd Off-Ramp	1	56.8	27.3	C	56.4	40.6	E
Temescal Canyon Rd On-Ramp	1	61.1	19.4	B	55.5	33.5	D
Indian Truck Trail Off-Ramp	2	57.4	11.5	B	56.7	24.3	C
Indian Truck Trail On-Ramp	1	61.2	18.8	B	58.2	29.6	D
Horsethief Canyon Rd Off-Ramp	1	57.4	24.2	C	55.4	41.1	E

Ramp	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
Horsethief Canyon Rd On-Ramp	1	61.2	18.8	B	59.6	26.5	C
Lake St Off-Ramp	1	56.2	26.2	C	56.3	35.6	E
Lake St On-Ramp	1	60.9	20.4	C	59.7	26.0	C
Nichols Rd Off-Ramp	1	57.3	23.8	C	57.1	32.5	D
Nichols Rd On-Ramp	1	61.4	17.5	B	60.0	25.2	C
SR-74 Off-Ramp	2	56.1	6.1	A	55.4	10.7	B
SR-74 On-Ramp	1	62.9	13.2	B	61.0	21.2	C
Main St Off-Ramp (Major Diverge)	2	-	0.9	A	-	6.4	A
Main St On-Ramp	1	Lane Addition					
Franklin St Off-Ramp	1	Lane Deletion					
Franklin St On-Ramp	1	60.7	21.9	C	59.8	25.5	C
Railroad Canyon Rd Off-Ramp (Major Diverge)	2	-	3.1	A	-	6.8	A
Railroad Canyon Rd On-Ramp	1	57.6	30.6	D	54.6	34.7	D
Olive St Off-Ramp	1	57.0	34.9	D	56.5	38.9	E
Olive St On-Ramp	1	58.9	28.2	D	57.3	31.3	D
Bundy Canyon Rd Off-Ramp	2	56.7	20.4	C	56.3	23.7	C
Bundy Canyon Rd On-Ramp	1	56.3	32.3	D	55.7	33.2	D
Baxter Rd Off-Ramp	1	57.8	63.3	E	57.4	37.1	E
Baxter Rd On-Ramp	1	Lane Addition					
Clinton Keith Rd Off-Ramp (Major Diverge)	2	-	11.5	A	-	16.0	B
Clinton Keith Rd On-Ramp	1	54.2	34.6	D	57.6	30.5	D
California Oaks Rd Off-Ramp	2	56.3	24.4	C	56.3	21.5	C
California Oaks Rd WB On-Ramp	1	57.0	31.7	D	57.9	30.0	D
California Oaks Rd EB On-Ramp	1	Lane Addition					
Murrieta Hot Springs Rd Off-Ramp (Major Diverge)	2	-	11.8	B	-	13.5	B
Murrieta Hot Springs Rd WB On-Ramp	1	59.3	27.2	C	60.4	23.5	C
Murrieta Hot Springs Rd EB On-Ramp	1	58.5	29.0	D	59.6	26.3	C

5.6.1.3 Weaving Level of Service

Year 2040 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area weaving segments areas are summarized in **Table 5.6.1.3-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. As **Table 5.6.1.3-1** indicates, all freeway weaving segments are projected to operate at satisfactory levels of service, with the following exceptions:

I-15 Northbound

- ◆ El Cerrito Road On-Ramp to Ontario Avenue Off-Ramp (a.m. peak hour);
- ◆ Magnolia Avenue On-Ramp to SR-91 Off-Ramp (a.m. and p.m. peak hours).

I-15 Southbound

- ◆ 2nd Street On-Ramp to Hidden Valley Parkway Off-Ramp (a.m. and p.m. peak hours);

◆ Ontario Ave On-Ramp to El Cerrito Road Off-Ramp/HOT Egress (p.m. peak hour).

Year 2040 Build Alternative 2 freeway weaving segment levels of service, number of lanes, and volumes are illustrated in previously referenced **Figures 5.6.1.1-1a, 5.6.1.1-1b, 5.6.1.1-1c, and 5.6.1.1-1d**. A separate weaving analysis has been performed for weaving segments within the HOT lanes, between the ingress and egress locations, the results of which are presented later in this chapter.

Table 5.6.1.3-1 - Year 2040 Freeway Weaving Segment Peak Hour Level of Service - Build Alternative 2

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
El Cerrito Rd On-Ramp to Ontario Ave Off-Ramp	5	52.3	57.3	F	54.5	41.5	E
Magnolia Ave On-Ramp to SR-91 Off-Ramp	5	39.7	69.2	F	41.7	55.1	F
Hidden Valley Pkwy On-Ramp to 2 nd St Off-Ramp	5	55.9	36.3	E	51.6	39.4	E
I-15 Southbound							
2 nd St On-Ramp to Hidden Valley Pkwy Off-Ramp	4	57.8	55.2	F	58.2	50.3	F
SR-91 WB On-Ramp to Magnolia Ave Off-Ramp	5	52.4	38.2	E	53.6	41.4	E
Ontario Ave On-Ramp to El Cerrito Rd Off-Ramp/HOT Egress	5	61.2	29.3	D	56.6	45.1	F

5.6.1.4 HOV/Tolled Express Lane Segment Level of Service

Year 2040 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area freeway HOV and tolled express lane segments are summarized in **Table 5.6.1.4-1** and **Table 5.6.1.4-2**, respectively. The tolled express lane segment LOS calculation sheets are contained in **Appendix M**. As **Table 5.6.1.4-1** and **Table 5.6.1.4-2** indicate, all the HOV/tolled express lane freeway segments in the study area are projected to operate at satisfactory levels of service during both the a.m. and p.m. peak hours, with the following exceptions:

I-15 Northbound (HOV)

- ◆ Baxter Road to Bundy Canyon Road (a.m. peak hour);
- ◆ Bundy Canyon Road to Olive Street (a.m. peak hour);
- ◆ Olive Street to Railroad Canyon Road (a.m. peak hour);
- ◆ Railroad Canyon Road to Franklin Street (a.m. peak hour);
- ◆ Franklin Street to Main Street (a.m. peak hour).

Table 5.6.1.4-1 - Year 2040 HOV Segment Peak Hour Level of Service - Build Alternative 2

Segment	# of Lanes	Capacity	AM Peak Hour			PM Peak Hour		
			Volume	V/C	LOS	Volume	V/C	LOS
I-15 Northbound								
Murrieta Hot Springs Rd to California Oaks Rd	1	1600	1195	0.75	C	950	0.59	A
California Oaks Road to Clinton Keith Rd	1	1600	1375	0.86	D	1067	0.67	B
Clinton Keith Rd to Baxter Rd	1	1600	1375	0.86	D	1067	0.67	B
Baxter Rd to Bundy Canyon Rd	1	1600	1648	1.03	F	1025	0.64	B
Bundy Canyon Rd to Olive St	1	1600	1648	1.03	F	1025	0.64	B
Olive St to Railroad Canyon Rd	1	1600	1648	1.03	F	1025	0.64	B
Railroad Canyon Rd to Franklin St	1	1600	1648	1.03	F	1025	0.64	B
Franklin St to Main St	1	1600	1648	1.03	F	1025	0.64	B
Main St to Central Av	-	-	-	-	-	-	-	-
I-15 Southbound								
Central Ave to Main St	1	1600	1159	0.72	A	1756	1.10	C
Main St to Franklin St	1	1600	1159	0.72	A	1756	1.10	C
Franklin St to Railroad Canyon Rd	1	1600	1159	0.72	A	1756	1.10	C
Railroad Canyon Rd to Olive St	1	1600	1159	0.72	A	1756	1.10	C
Olive St to Bundy Canyon Rd	1	1600	1159	0.72	A	1756	1.10	C
Bundy Canyon Rd to Baxter Rd	1	1600	1185	0.74	A	1512	0.95	B
Baxter Rd to Clinton Keith Rd	1	1600	1185	0.74	A	1512	0.95	B
Clinton Keith Rd to California Oaks Rd	1	1600	1059	0.66	A	1377	0.86	A
California Oaks Rd to Murrieta Hot Springs Rd	1	1600	1059	0.66	A	1377	0.86	A

Table 5.6.1.4-2 - Year 2040 Tolloed Express Lane Segment Peak Hour Level of Service - Build Alternative 2

Segment	# of Lanes	AM Peak Hour				PM Peak Hour			
		Volume	Speed	Density	LOS	Volume	Speed	Density	LOS
I-15 Northbound									
Central Ave to Nichols Rd	2	1933	60.5	16.3	B	994	60.5	8.4	A
Nichols Rd to Lake St	2	1933	60.5	16.3	B	994	60.5	8.4	A
Lake St to Horsethief Canyon Rd	2	1933	60.5	16.3	B	994	60.5	8.4	A
Horsethief Canyon Rd to Indian Truck Tr	2	1933	60.5	16.3	B	994	60.5	8.4	A
Indian Truck Trail to Temescal Canyon Rd	2	1933	62.0	10.6	A	994	60.5	8.4	A
Temescal Canyon Rd to Weirick Rd	2	2820	60.5	23.8	C	1474	60.5	12.4	B
Weirick Rd to Cajalco Rd	2	2662	60.5	22.4	C	1342	60.5	11.3	B
Cajalco Rd to El Cerrito Rd	2	2662	60.5	22.4	C	1342	60.5	11.3	B
El Cerrito Rd to Ontario Av	3	3399	62.0	18.6	C	2249	62.0	12.3	B
Ontario Ave to Magnolia Av	2	2454	60.5	20.7	C	1004	60.5	8.5	A
Magnolia Ave to SR-91	2	2454	60.5	20.7	C	1004	60.5	8.5	A
SR-91 to Hidden Valley Pkwy	2	2430	60.5	20.5	C	1835	60.5	15.5	B

Segment	# of Lanes	AM Peak Hour				PM Peak Hour			
		Volume	Speed	Density	LOS	Volume	Speed	Density	LOS
Hidden Valley Pkwy to 2 nd St	2	2067	60.5	17.4	B	1577	60.5	13.3	B
2 nd St to 6 th St	2	3016	60.5	25.4	C	2689	60.5	22.7	C
6 th St to Schleisman Rd	2	3016	60.5	25.4	C	2689	60.5	22.7	C
Schleisman Rd to Limonite Av	2	3016	60.5	25.4	C	2689	60.5	22.7	C
Limonite Ave to Cantu-Galleano Ranch Rd	2	3016	60.5	25.4	C	2689	60.5	22.7	C
I-15 Southbound									
Cantu-Galleano Ranch Rd to Limonite Av	2	2676	60.5	22.6	C	2650	60.5	22.3	C
Limonite Ave to Schleisman Rd	2	2676	60.5	22.6	C	2650	60.5	22.3	C
Schleisman Rd to 6 th St	2	2676	60.5	22.6	C	2650	60.5	22.3	C
6 th St to 2 nd St	2	2676	60.5	22.6	C	2650	60.5	22.3	C
2 nd St to Hidden Valley Parkway	2	1554	60.5	13.1	B	1569	60.5	13.2	B
Hidden Valley Parkway to SR-91	2	2086	60.5	17.6	B	2139	60.5	18.0	C
SR-91 to Magnolia Av	2	1930	60.5	16.3	B	2163	60.5	18.2	C
Magnolia Ave to Ontario Av	2	1930	60.5	16.3	B	2163	60.5	18.2	C
Ontario Ave to El Cerrito Rd	3	3206	62.0	17.6	B	3106	62.0	17.0	B
El Cerrito Rd to Cajalco Rd	2	1735	60.5	14.6	B	1910	60.5	16.1	B
Cajalco Rd to Weirick Rd	2	1735	60.5	14.6	B	1910	60.5	16.1	B
Weirick Rd to Temescal Canyon Rd	2	1863	60.5	15.7	B	2102	60.5	17.7	B
Temescal Canyon Rd to Indian Truck Tr	2	1863	60.5	15.7	B	2102	60.5	17.7	B
Indian Truck Trail to Horsethief Canyon Rd	2	1863	60.5	15.7	B	2102	60.5	17.7	B
Horsethief Canyon Rd to Lake St	2	1863	60.5	15.7	B	2102	60.5	17.7	B
Lake St to Nichols Rd	2	1863	60.5	15.7	B	2102	60.5	17.7	B
Nichols Rd to Central Av	2	1863	60.5	15.7	B	2102	60.5	17.7	B

In addition to the tolled express lane segments listed in **Table 5.6.1.4-2**, there are four single-lane tolled express lane segments within the freeway corridor. These single-lane segments are the following:

I-15 Northbound

- ◆ North of Cantu-Galleano Ranch Road Off-Ramp to North of SR-60 Off-Ramp;
- ◆ North of SR-74 Off-Ramp to South of Nichols Road Off-Ramp.

I-15 Southbound

- ◆ South of SR-60 Off-Ramp to South of Cantu-Galleano Ranch Road Off-Ramp;
- ◆ South of Nichols Road On-Ramp to South of Central Avenue On-Ramp.

As shown in previously referenced **Figure 5.6.1.1a**, the northbound single-lane tolled express lane segment (north of Cantu-Galleano Ranch Road Off-Ramp to north of SR-60 Off-Ramp) is projected to carry 2265 pc/hr/ln in the a.m. peak hour and 1825 pc/hr/ln in the p.m. peak hour, which is more than the capacity of a tolled express lane of 1700 pc/hr/ln. The a.m. peak hour

5.6.1.6 Weaving Analysis – Tolloed Express Lane Segments

Within the tolled express lanes, there are three segments where an ingress point is followed by an egress point, potentially creating a weaving segment. However, only one of the segments has ingress and egress locations that are less than 2500 feet apart creating a weaving segment. The weaving analysis of this segment has been performed using similar methodologies as for the mainline segments. Year 2020 Build Alternative 2 a.m. and p.m. peak hour levels of service for the study area tolled express lane weaving segment are summarized in **Table 5.6.1.6-1**. The freeway weaving LOS calculation sheets are included in **Appendix E**. As **Table 5.6.1.6-1** indicates, the weaving segment is projected to operate at satisfactory levels of service.

Table 5.6.1.6-1 - Year 2040 Tolloed Express Lane Weaving Analysis - Build Alternative 2

Weaving Segment	# of Lanes	AM Peak Hour			PM Peak Hour		
		Speed	Density	LOS	Speed	Density	LOS
I-15 Northbound							
North of Temescal Canyon Rd Off-Ramp to North of Temescal Canyon Rd On-Ramp	3	59.6	16.1	B	65.5	7.6	A

5.6.2 Intersection Performance Analysis

5.6.2.1 Intersection Level of Service

Year 2040 Build Alternative 2 a.m. and p.m. peak hour traffic volumes at the study intersections are illustrated in previously referenced **Figures 4.5.2-3a, 4.5.2-3b, 4.5.2-3c, and 4.5.2-3d**. The intersection geometrics for year 2040 Build Alternative 2 conditions are illustrated in **Figures 5.6.2.1-1a, 5.6.2.1-1b, 5.6.2.1-1c, and 5.6.2.1-1d**. Year 2040 Build Alternative 2 intersection geometrics includes proposed roadway improvements as listed in the RTP that are expected to be in place by year 2040, as in year 2040 Build Alternative 1.

A level of service analysis using the previously described methodologies was conducted to evaluate year 2040 Build Alternative 2 traffic conditions in the study area. The results of the intersection level of service analysis are summarized in **Table 5.6.2.1-1**. Detailed levels of service calculation worksheets are included in **Appendix F**.

As **Table 5.3.2.1-1** indicates, all study area intersections are projected to operate at satisfactory levels of service, with the following exceptions:

- ◆ Hamner Avenue and Cantu-Galleano Ranch Road (a.m. and p.m. peak hours);
- ◆ Wineville Road and Cantu-Galleano Ranch Road (a.m. and p.m. peak hours);
- ◆ Hamner Avenue and Limonite Avenue (a.m. and p.m. peak hours);
- ◆ Home Depot Center Driveway and Limonite Avenue (p.m. peak hour);
- ◆ I-15 Southbound Ramps and Limonite Avenue (a.m. and p.m. peak hours);
- ◆ I-15 Northbound Ramps and Limonite Avenue (a.m. and p.m. peak hours);
- ◆ Retail Center Driveway and Limonite Avenue (p.m. peak hour);

- ◆ Cherry Street and Bundy Canyon Road (a.m. and p.m. peak hours);
- ◆ Hidden Springs Road and Clinton Keith Road (p.m. peak hour);
- ◆ Arya Drive and Clinton Keith Road (p.m. peak hour);
- ◆ Madison Avenue and Murrieta Hot Springs Road (p.m. peak hour).

Table 5.6.2.1-1 - Year 2040 Intersection Peak Hour Level of Service - Build Alternative 2

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
1	Hamner Avenue and Cantu-Galleano Ranch Road	Signal	1.09	65.4	E	1.38	112.3	F
2	I-15 Southbound Ramps and Cantu-Galleano Ranch Road	Signal	0.52	13.0	B	0.48	9.3	A
3	I-15 Northbound Ramps and Cantu-Galleano Ranch Road	Signal	0.46	17.4	B	0.58	20.8	C
4	Wineville Road and Cantu-Galleano Ranch Road	Signal	1.01	59.8	E	0.97	55.2	E
5	Hamner Avenue and Limonite Avenue	Signal	1.97	318.0	F	1.96	275.2	F
6	Home Depot Center Driveway and Limonite Avenue	Signal	0.88	10.8	B	1.22	80.4	F
7	I-15 Southbound Ramps and Limonite Avenue	Signal	1.54	223.4	F	1.52	208.5	F
8	I-15 Northbound Ramps and Limonite Avenue	Signal	1.17	78.8	E	1.27	120.7	F
9	Shopping Center Driveway and Limonite Avenue	2WSC	N/A	18.8	C	N/A	> 500	F
10	Pats Ranch Road and Limonite Avenue	Signal	0.85	16.6	B	1.10	46.8	D
11	Wineville Road and Limonite Avenue	Signal	1.39	132.0	F	1.62	188.7	F
12	Hamner Avenue and Schleisman Road	Signal	7.26	> 500	F	6.04	> 500	F
13	I-15 Southbound Ramps and Schleisman Road	Signal	0.87	18.8	B	0.82	16.4	B
14	I-15 Northbound Ramps and Schleisman Road	Signal	0.91	19.7	B	0.85	14.7	B
15	Future Road (East of I-15) and Schleisman Road	Signal	0.86	10.7	B	0.90	13.9	B
16	Hamner Avenue and 6 th Street/Norco Drive	Signal	1.45	206.7	F	1.59	230.0	F
17	I-15 Southbound Ramps and 6 th Street	Signal	0.89	28.3	C	1.01	34.6	C
18	I-15 Northbound Ramps and 6 th Street	Signal	0.76	19.7	B	0.92	26.1	C
19	Sierra Avenue and 6 th Street	Signal	0.47	27.1	C	0.67	21.7	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
20	Hamner Avenue and 2 nd Street	Signal	1.06	58.7	E	1.17	80.3	F
21	I-15 Southbound Ramps and 2 nd Street	Signal	0.79	17.9	B	0.77	17.1	B
22	I-15 Northbound Ramps and 2 nd Street	Signal	0.94	41.0	D	1.20	117.5	F
23	Valley View Avenue and 2 nd Street	AWSC	N/A	46.4	E	N/A	17.0	C
24	Hamner Avenue and Hidden Valley Parkway	Signal	1.27	132.2	F	1.70	231.9	F
25	I-15 Southbound Off-Ramp and Hidden Valley Parkway	Signal	0.64	11.8	B	2.08	67.9	E
26	I-15 Southbound On-Ramp and Hidden Valley Parkway	Signal	0.60	3.2	A	1.14	48.6	D
27	I-15 Northbound On-Ramp and Hidden Valley Parkway	Signal	0.65	8.4	A	1.57	212.0	F
28	I-15 Northbound Off-Ramp and Hidden Valley Parkway	Signal	0.64	25.5	C	1.01	64.0	E
29	Garland Way and Hidden Valley Parkway	Signal	0.47	14.5	B	0.67	19.8	B
30	Rimpau Avenue and Magnolia Avenue	Signal	1.15	94.8	F	1.31	123.8	F
31	El Sobrante Road and Magnolia Avenue	Signal	0.71	27.2	C	0.95	35.3	D
32	I-15 Southbound Ramps and Magnolia Avenue	Signal	0.97	31.6	C	1.03	34.9	C
33	I-15 Northbound Ramps and Magnolia Avenue	Signal	0.91	23.0	C	0.74	13.0	B
34	El Camino Avenue and Magnolia Avenue	Signal	1.04	155.0	F	0.99	126.9	F
35	Compton Avenue and Ontario Avenue	Signal	0.94	12.5	B	1.23	83.6	F
36	I-15 Southbound Ramps and Ontario Avenue	Signal	1.00	23.3	C	1.00	22.5	C
37	I-15 Northbound Ramps and Ontario Avenue	Signal	0.99	38.9	D	0.96	38.3	D
38	State Street and Ontario Avenue	2WSC	N/A	> 500	F	N/A	> 500	F
39	Crossroads Street and Foothill Parkway	Signal	0.84	19.7	B	1.11	138.0	F
40	Bedford Canyon Road and Foothill Parkway/El Cerrito Road	Signal	0.81	21.2	C	1.36	182.7	F
41	I-15 Southbound Ramps and El Cerrito Road	Signal	1.19	116.3	F	1.68	274.2	F
42	I-15 Northbound Ramps and El Cerrito Road	Signal	0.78	7.0	A	0.54	8.8	A
43	Katy Way and El Cerrito Road	AWSC	N/A	200.4	F	N/A	292.3	F

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
44	Bedford Canyon Road and Cajalco Road	Signal	1.43	140.3	F	1.35	119.5	F
45	I-15 Southbound Ramps and Cajalco Road	Signal	0.71	19.0	B	0.87	25.9	C
46	I-15 Northbound Ramps and Cajalco Road	Signal	0.77	22.1	C	0.63	27.6	C
47	Grand Oaks Road and Cajalco Road	Signal	0.45	7.3	A	0.47	10.9	B
48	Temescal Canyon Road and Cajalco Road	Signal	0.97	47.0	D	1.04	132.4	F
49	Nob Hill Road/Knabe Road and Weirick Road	Signal	0.35	29.1	C	0.58	81.4	F
50	I-15 Southbound Ramps and Weirick Road	Signal	0.64	28.3	C	0.59	22.9	C
51	I-15 Northbound Ramps and Weirick Road	Signal	0.53	31.3	C	0.53	18.8	B
52	Temescal Canyon Road and Weirick Road	Signal	0.82	38.2	D	0.91	46.6	D
53	Trilogy Parkway and Temescal Canyon Road	Signal	0.51	26.0	C	0.33	16.0	B
54	I-15 Southbound Ramps and Temescal Canyon Road	Signal	0.59	13.5	B	0.61	22.0	C
55	I-15 Northbound Ramps and Temescal Canyon Road	Signal	0.61	19.7	B	0.48	16.6	B
56	Dawson Canyon Road and Temescal Canyon Road	Signal	0.38	15.5	B	0.41	13.4	B
57	Campbell Ranch Road and Indian Truck Trail	Signal	0.39	19.2	B	0.33	12.3	B
58	I-15 Southbound Ramps and Indian Truck Trail	Signal	0.21	15.5	B	0.22	15.6	B
59	I-15 Northbound Ramps and Indian Truck Trail	Signal	0.21	15.2	B	0.13	16.3	B
60	Temescal Canyon Road and Indian Truck Trail	Signal	0.80	13.4	B	0.20	17.2	B
61	De Palma Road and Horsethief Canyon Road	Signal	0.52	14.5	B	0.52	23.5	C
62	I-15 Southbound Ramps and Horsethief Canyon Road	Signal	0.23	13.9	B	0.85	33.3	C
63	I-15 Northbound Ramps and Horsethief Canyon Road	Signal	0.39	18.3	B	0.58	17.1	B
64	Temescal Canyon Road and Horsethief Canyon Road	Signal	1.12	143.0	F	1.77	300.0	F
65	Temescal Canyon Road and Lake Street	Signal	1.24	119.5	F	1.47	224.2	F
66	I-15 Southbound Ramps and Lake Street	Signal	0.60	26.3	C	0.48	23.5	C
67	I-15 Northbound Ramps and Lake Street	Signal	0.31	9.7	A	0.19	27.7	C

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
68	Walker Canyon Road and Lake Street	2WSC	N/A	0.3	A	N/A	0.6	A
69	Collier Avenue and Nichols Road	1WSC	N/A	5.2	A	N/A	9.0	A
70	I-15 Southbound Ramps and Nichols Road	Signal	0.20	20.5	C	0.23	21.6	C
71	I-15 Northbound Ramps and Nichols Road	Signal	0.19	21.2	C	0.21	16.3	B
72	Collier Avenue and Central Avenue (SR-74)	Signal	0.79	35.8	D	0.91	43.8	D
73	I-15 Southbound Ramps and Central Avenue (SR-74)	Signal	0.58	17.4	B	0.85	18.9	B
74	I-15 Northbound Ramps and Central Avenue (SR-74)	Signal	0.44	9.7	A	0.57	14.2	B
75	Dexter Avenue and Central Avenue (SR-74)	Signal	0.48	29.8	C	0.61	27.9	C
76	Flint Street and Main Street	2WSC	N/A	19.7	C	N/A	> 500	F
77	I-15 Southbound Ramps and Main Street	1WSC	N/A	4.5	A	N/A	11.3	B
78	I-15 Northbound Ramps and Main Street	1WSC	N/A	12.5	B	N/A	6.1	A
79	Camino Del Norte and Main Street	1WSC	N/A	7.5	A	N/A	19.4	C
80	Auto Center Drive and Franklin Street	Signal	0.82	23.6	C	0.77	26.7	C
81	I-15 Southbound Ramps and Franklin Street	Signal	0.49	14.4	B	0.59	16.1	B
82	I-15 Northbound Ramps and Franklin Street	Signal	0.27	21.2	C	0.47	16.9	B
83	Canyon Estates Drive and Franklin Street	Signal	0.94	24.9	C	0.98	24.9	C
84	Auto Center Drive/Casino Drive and Railroad Canyon Road	Signal	0.51	25.1	C	0.58	31.4	C
85	I-15 Southbound Ramps and Railroad Canyon Road	Signal	0.20	19.8	B	0.22	27.4	C
86	I-15 Northbound Ramps and Railroad Canyon Road	Signal	0.37	5.3	A	0.44	12.7	B
87	Summerhill Drive and Railroad Canyon Road	Signal	0.87	67.3	E	1.10	73.8	E
88	Mission Trail and Olive Street	Signal	1.23	134.4	F	1.21	117.5	F
89	I-15 Southbound Ramps and Olive Street	Signal	0.66	7.1	A	0.69	9.7	A
90	I-15 Northbound Ramps and Olive Street	Signal	0.66	10.7	B	0.64	15.3	B
91	Grape Street and Olive Street	Signal	1.28	74.6	E	1.25	62.4	E

Int. ID	Intersection	Control	AM Peak Hour			PM Peak Hour		
			V/C	Delay	LOS	V/C	Delay	LOS
92	Orange Street and Bundy Canyon Road	Signal	0.77	25.5	C	0.67	18.7	B
93	I-15 Southbound Ramps and Bundy Canyon Road	Signal	0.88	29.4	C	0.90	25.9	C
94	I-15 Northbound Ramps and Bundy Canyon Road	Signal	0.82	21.7	C	0.89	25.5	C
95	Cherry Street and Bundy Canyon Road	1WSC	N/A	> 500	F	N/A	> 500	F
96	Central Street and Baxter Road	Signal	0.40	10.9	B	0.87	28.1	C
97	I-15 Southbound Ramps and Baxter Road	Signal	0.24	18.1	B	0.32	12.5	B
98	I-15 Northbound Ramps and Baxter Road	Signal	0.41	24.8	C	0.63	24.1	C
99	Monte Vista Drive and Baxter Road	1WSC	N/A	19.5	C	N/A	32.4	D
100	Hidden Springs Road and Clinton Keith Road	Signal	0.90	29.0	C	1.12	53.3	D
101	I-15 Southbound Ramps and Clinton Keith Road	Signal	0.85	22.6	C	0.90	25.1	C
102	I-15 Northbound Ramps and Clinton Keith Road	Signal	0.84	16.1	B	0.86	26.5	C
103	Arya Drive and Clinton Keith Road	Signal	0.94	28.1	C	1.16	71.4	E
104	I-15 Southbound Ramp / Madison Avenue and Kalmia Street	Signal	0.58	26.2	C	0.74	33.1	C
105	I-15 Southbound Ramps and Kalmia Street	No conflicting movements						
106	I-15 Northbound Ramps and California Oaks Road	Signal	0.48	12.7	B	0.69	14.9	B
107	Cal Oaks Plaza Driveway and California Oaks Road	Signal	0.47	14.9	B	0.70	22.0	C
108	Monroe Avenue and California Oaks Road	Signal	0.52	20.3	C	0.69	29.2	C
109	Madison Avenue and Murrieta Hot Springs Road	Signal	0.50	29.8	C	1.02	66.6	E
110	I-15 Southbound Ramps and Murrieta Hot Springs Road	Signal	0.58	16.6	B	0.74	16.6	B
111	I-15 Northbound Ramps and Murrieta Hot Springs Road	Signal	0.46	3.5	A	0.59	5.7	A
112	Sparkman Drive and Murrieta Hot Springs Road	1WSC	N/A	1.5	A	N/A	11.5	B
113	Hancock Avenue and Murrieta Hot Springs Road	Signal	0.63	22.5	C	0.75	19.6	B

Notes:

HCM 2000 Operations Methodology. **BOLD** indicates unsatisfactory level of service.

LOS = Level of Service, Delay = Average Vehicle Delay (Seconds), V/C = Volume-to-Capacity Ratio

1WSC - One-Way Stop Control

2WSC - Two-Way Stop Control

AWSC - All-Way Stop Control